UNITED STATES / FIELD REFERENCE

The Grid-Down Reference

An Offline Handbook for the Contiguous United States

Douglas C. Youvan



2026 EDITION

Edition and sources

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2026 edition. Geographic scope is the 48 contiguous states and the District of Columbia. State and local examples are identified as examples.

This handbook organizes public information in original explanatory prose. It uses public agency publications, statutes, technical documentation, and other credited references. Source keys lead to the bibliography at the back. The descriptions, exercises, and organization are written for this edition.

Names of products and organizations identify the subjects discussed. RadiaCode material is an independent quick-start for the 100 series. Consult the manufacturer’s documentation for your model and app version.

Emergency instructions can change with location and conditions. Follow current directions from the officials responsible for an incident. Use the source dates and jurisdictions when checking a legal or technical question.

SOURCE KEYS G17 G12

How to use this book

Use the contents to find the right part, then use the topic index for a specific problem. Each entry is laid out as a page you can read in isolation. For a wider view, follow the chapter in order.

Before an outage

Pick one route through each essential household function. Decide where water comes from, how food stays usable, which loads need power, and where authoritative updates come from. Mark the pages that apply to your household and leave the rest as reference.

During an outage

Start with what is happening at your address and what you can verify now. Write the time next to changing conditions. Divide problems by time horizon. An immediate health or fire hazard comes first. A system that may run out by morning deserves a named person and a check time.

Using source keys

A key such as G01 identifies a reference in the back. The URLs help you save authoritative copies while internet access is available. The printed explanation is a starting point for decisions, and the linked text preserves the original scope and wording.

First actions in an outage

Check people and immediate hazards. Use 911 for an immediate threat to life. If the call fails and another safe route to help is available, send a specific helper.

Carbon monoxide alarm **pp. 125–126**

Get everyone outside to fresh air immediately. Call 911 from safety. Wait for responders to clear reentry.

Downed power line **p. 141**

Stay well clear of the line and anything touching it. Keep others away. Report it from a safe location.

Radiation alert **pp. 466, 473–475**

Get inside the nearest building. Move to the basement or interior, close doors and windows, and listen for official instructions.

Unsafe tap water **pp. 32–34, 42**

Read the exact local advisory. Use bottled water for drinking if safety is uncertain. Boil only where the advisory allows it.

Refrigerator without power **pp. 49–51**

Keep the doors closed. Record when the power stopped or was last known to be on. Use the keep-or-discard guidance.

Immediate medical emergency **pp. 180–193**

Check scene safety and seek help. CPR and AED: pp. 182–183. Choking: p. 184. Serious bleeding: p. 185. Anaphylaxis: p. 191.

Weather radio, pp. 256–259 • Maps, p. 294 • Public authority, p. 313 • Offline library, p. 389 • RadiaCode, pp. 469–472

SOURCE KEYS HWADV HFOOD M13 P15 P16 G20

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Adapt the book to your region

The same outage can have different consequences a few miles apart. A city apartment may lose elevator access and ventilation. A rural household may lose a well pump and have a long route to the nearest open pharmacy. A coastal storm may cut a bridge that appears as the obvious route on a statewide map.

Start with local geography

Identify the roads, bridges, river crossings, and evacuation boundaries that matter to your area. Save a current road map and enough detail to trace the last few miles. Mark alternate routes that use a different crossing or major road.

Plan around the season

Look at the hazards and service interruptions that are credible where you live. Winter outages can threaten heat and pipes. Summer outages can make a building unsafe for people who depend on cooling. Coastal flooding, severe thunderstorms, smoke, and mountain travel all call for different decisions.

Record the local sources

Find your county or equivalent emergency management office and your National Weather Service forecast office. Note the jurisdiction and the date you saved each notice or map. A practice session is a good time to confirm that the route and source can be found with the internet disconnected.

SOURCE KEYS G13 G15 G16

Put the reference to work

A reference book becomes more useful when its readers agree on how to use it together. One person can listen for updates while another checks supplies. The person receiving a message should be able to identify where it came from and what action was requested. A household need not operate like an emergency agency to benefit from clear notes and specific roles.

Make the first hour visible

Use a sheet of paper to record the outage start time, people present, immediate hazards, and the next two checks. A shared record gives a second person enough context to take over without repeating the same tasks. Update a time estimate when circumstances change.

Separate facts from assumptions

Record an observation with its time and location. Record an official instruction with its issuer and geographic scope. Mark a guess as a guess. If a radio report or an offline model suggests a step, open the relevant source before changing a consequential plan.

Practice a handoff

Hand this book and the current record to another person. Ask them to explain what is known and find the next relevant page. If they cannot do so quickly, improve the note or mark the page before doing a longer exercise.

Household Plans and Daily Routines

The First Five Minutes

When a household loses power, several ordinary decisions suddenly compete for attention. Check people first. Find out whether anyone was on the stairs, using a device that needs power, preparing food, or outside. If there is immediate danger or someone needs emergency care, call for help as soon as a working channel is available.

Pick one person to write down the time the outage began. If nobody saw it start, record the last time someone knew power was on. That distinction matters later when deciding how long food may have been warm. Leave refrigerator and freezer doors shut. Use flashlights to clear a path to a shared room and the usual exits.

Make the first handoff

Ask one person to check reliable local information while another looks at the household's immediate needs. If you live alone, do the checks in that order after checking for hazards. Write down one next action for each issue that needs attention. A short list such as “call the utility, verify elevator status, check the water notice at six” can settle more questions than repeated trips around the house.

SOURCE KEYS HKIT HOLDER HFOOD

Know the Household's Dependencies

Make an inventory of the things your household expects to work without thinking. Start with the faucet, toilet, stove, refrigerator, door locks, stairs, and phone. Add systems that matter in your home, such as a sump pump, well pump, garage door, electric heat, or an elevator. A walk through the building reveals dependencies that a list of appliances can miss.

For each item, record what a failure would prevent and how much time you have to act. A stopped entertainment system can wait. A missed medication, rising basement water, or a person stranded upstairs may require immediate attention. Write down who knows the system and the number to call when you need professional or building support.

Trace one connection

A working faucet may still depend on electricity if the house uses a well pump or the building pumps water to upper floors. A working stove may still be a poor choice if the room has lost ventilation or if the appliance requires electricity. Ask the building manager or installer about your exact setup before an outage. Put their answer on the inventory, along with its date.

SOURCE KEYS HKIT HOLDER

A Plan Anyone Can Pick Up

A household plan should make sense to someone who rarely handles emergencies. Give it a cover page with three immediate tasks, the primary meeting place, and where to find paper maps, lights, and supplies. Use the same ordinary language you would use when giving directions to a guest.

Then write a second page for details that change with the situation. Name one nearby meeting point and another outside the neighborhood. Record who collects a child or helps an adult who needs assistance. Add the method for checking on someone if phones fail. Identify a person who can relay updates for separated household members, with their agreement.

Read it aloud

Ask someone to read the plan while you stay quiet. If they ask which cupboard, which route, or which neighbor, the plan needs a little more precision. Put times, addresses, and simple labels where the reader expects them. Keep a version accessible to anyone who may need it, including a large-print or translated copy where useful. Give a trusted helper the portions that apply to their role.

SOURCE KEYS HKIT HOLDER

When Home Stops Being a Good Base

Decide in advance what would make the household leave. Examples include a government evacuation order, an immediate building hazard, loss of reliable care, or conditions that make it difficult to keep an occupant safely warm or cool. Name the decision-maker and a backup. If public authorities issue instructions, the current directions for your area take priority over a plan made earlier.

Think in destinations before thinking in equipment. A relative's accessible home, a public shelter, or another place outside the affected area each has different travel and admission requirements. Verify the destination through an official source or a trusted direct contact. A map and a way to identify an alternate route are useful even for a trip you know well.

Leave room for departure

Keep essentials in a place you can reach without searching through storage. A small bag with identification, necessary medicines, and the items a person uses to move or communicate is easier to retrieve under pressure. Include carriers or leads if animals are part of the plan. A spare key and a meeting point can be more consequential than another box of supplies.

SOURCE KEYS HKIT HOLDER HPETS

Roles for Small and Large Households

Give household jobs names that describe the work. “People check” means account for everyone and notice anyone needing help. “Information check” means listen or look for an update and write down the source and time. “Kitchen check” means keep the cold-storage record and set out food and water for the next meal.

In a one-person household, schedule the checks in order and arrange an outside check-in. In a busy household, give each task a primary person and a backup. A short handoff can prevent duplicate calls, repeated door openings, and an overlooked errand. Avoid assigning an essential job to someone who may be unable to do it under the likely conditions.

Give children defined jobs

A child can point to the lantern, put on shoes, or fetch a paper plan from a known spot. Assign work that suits their age and that they have practiced with an adult. Keep emergency decisions, electrical equipment, and hazardous cleanup with adults. Recognize the child's useful contribution and give them a specific place to wait while the adults decide what comes next.

SOURCE KEYS HKIT HOLDER HFOOD

Check-ins That Work With Less Bandwidth

Agree with contacts on when you will check in and what information the check-in will carry. A useful message says where you are, whether you need immediate help, and when you expect to check again. If you want the recipient to relay the message, name who should receive it and whether it contains information that should remain private.

Keep key telephone numbers on paper. Include a contact outside the affected area if everyone agrees to use that person as a relay. Build a second route for the message. A household may have a neighbor who can knock, a staffed desk in an apartment complex, or a regular place where family members can safely meet.

Plan for a missed call

A missed check-in can mean a flat battery, a network outage, or a real problem. Agree on a next step for each level of concern. For example, after one missed contact a relative may try another channel. If an agreed time passes and there are specific reasons to suspect immediate danger, the plan should say which local emergency number to call when service permits.

SOURCE KEYS HKIT HOLDER

Keep Essential Care Reachable

List the daily support each person relies on. In some households the first needs are eyeglasses, a hearing device, mobility equipment, a communication aid, or water available within reach. Other people rely on scheduled visits or powered medical equipment. Prepare a plan for those needs with the person concerned, their clinician or provider, and any support workers they choose to involve.

Keep a paper copy of the relevant provider and supplier numbers. Ask in advance about backup power, replacement supplies, medication storage, and what to do if the provider cannot be reached. Record any device-specific instructions from the person or organization responsible for the equipment. Identify who will carry the information if evacuation is needed.

Inspect the route

Walk from the bed to the toilet and the exit in low light. Look for narrow turns, hard-to-reach handles, and areas where a mobility aid cannot pass. Find an alternative where possible. A caregiver taking over should be able to see what assistance is wanted and how the person prefers it to be given. Update the plan when equipment, medicines, or household routines change.

SOURCE KEYS HOLDER HKIT

Planning for Children and School Closure

Write down the pickup arrangements a school or childcare provider actually uses. Include the authorized adults, the identification they need, and the building or staging point where the provider expects them to go. Review the plan each school year and when addresses or caregivers change. Keep the provider's official contact channel on paper.

At home, choose an adult who will handle questions and give simple updates. Let children know the next thing that is happening, such as supper in the living room or a trip to a relative's house. Keep familiar items available and leave time for ordinary activities. Predictable routines and small choices can make a long wait easier for children and their caregivers.

Prepare the changeover

Pack for the child in front of you. A change of clothes, foods they reliably eat, supplies for feeding or toileting, and a comfort item can matter much more than a generic list. If a child requires specialized food, equipment, or medication, plan with the relevant professional in advance. Make the directions easy for the next authorized adult to find and use.

SOURCE KEYS HKIT HOLDER

Pets Need a Destination Too

Identify evacuation destinations that can take each animal. Confirm any rules for carriers, vaccination records, or the number of pets before you count on a place. Include a backup in case a facility is full or a route is closed. Service animals and household pets can be subject to different shelter procedures, so ask for the information that applies to your situation.

Keep the animal's supplies near its carrier or lead. Common needs include regular food, drinking water, labeled medications, waste supplies, and a copy of relevant identification or veterinary records. Keep a current photo of the animal available. Make a buddy arrangement with someone who can help if you are away, with clear instructions on access and care.

Practice moving before dark

Set the carrier on a level surface and see whether the animal will enter while conditions are calm. Time the trip to the car or agreed pickup point and check where the carrier will ride securely. If the plan assumes another person can catch or handle the animal, introduce them in advance. In a rushed departure, a practiced routine is easier for both the animal and the person moving it.

SOURCE KEYS HPETS HKIT

Apartments and Shared Buildings

Ask building management how a loss of utility power affects elevators, common lighting, locks, intercoms, water delivery, and garage doors. Different systems may fail at different times. If your household relies on a powered feature to enter or leave, discuss alternatives with management and your support network while there is time to test them.

Identify who can issue building-wide instructions and how they do it. Save the management number and confirm whether there is a staffed entrance, a notice board, or a regular place to pick up updates. A sign on the lobby wall may be useful to some occupants while an upper-floor resident needs a direct message or an agreed knock.

Coordinate storage

Keep household supplies out of common exit routes. Use sturdy storage where you can retrieve it without climbing in poor light. Confirm building rules for any fuel or equipment before obtaining it. If the building has a shared emergency procedure, write the relevant steps into your household plan and check it again after a move or management change.

SOURCE KEYS HKIT HOLDER HCO

Rural Households and Longer Travel

Rural distance can extend every errand during an outage. Record where you could obtain safe water, essential supplies, repairs, or overnight shelter if the nearest business is closed. List a second destination on a different route. Update the list seasonally, especially where storms, ice, or high water regularly close roads.

Think through systems that may be specific to the property. A private well, septic system, gate, or long driveway may change what a working house needs during an outage. A well pump that has stopped because of electricity presents a different problem from a well that has been exposed to floodwater. Keep the relevant service contacts and an alternative water source in the plan.

Add travel information

Write down the last verified condition of a road, who provided that information, and when the report was made. News about a nearby town may say little about a bridge or low crossing on your route. If conditions are changing, confirm the route again before departure. Include enough time for the trip home, or arrange a destination where you can stay if a return is delayed.

SOURCE KEYS HKIT HWELL HSEPTIC

Practical Help Between Neighbors

An arrangement made in advance works best when each person knows what they have agreed to. One neighbor may be willing to check a door. Another may have room in a vehicle or know where an accessible entrance is located. Ask whether the help is available during the day, overnight, or only when the person is home.

Keep the arrangement small enough to remember. Exchange direct contact information and agree on a visible or audible check-in method that does not disclose a person's private circumstances. A scheduled knock or a brief message is often enough. Agree how to call for more help when a situation exceeds what either household can handle.

Make the limits explicit

An offer to carry supplies to a door differs from an offer to enter a home or provide medical assistance. Write down the agreed action. A neighbor can help a household decide what information to pass to responders without making decisions for them. Reconfirm the arrangement when someone moves, changes work hours, or has a change in mobility.

SOURCE KEYS HOLDER HKIT

A Plan for the First Night

When darkness arrives, normal household movements take more attention. Put lights where people use them and keep a clear route between the sleeping area, toilet, and exits. Set a lantern on a stable surface so the light falls on steps and handrails. Place shoes where they can be reached from the bed.

Decide how the household will get the next official update. A scheduled check uses less battery and usually causes less disruption than constant monitoring. If there is a severe weather warning or another immediate danger, follow local instructions and keep an alert channel available as conditions require.

Set out tomorrow's first task

Keep the next day's drinking water separate from containers with uncertain status. Place the day's meal supplies together if they can be stored safely that way. Write down the expected next call or departure time. A person waking before everyone else should be able to find the first task without guessing what happened the previous evening.

SOURCE KEYS HKIT HOLDER HWSTORE

A Shared Clock and a Written Log

Record the time when conditions change. Note when the power failed, when the refrigerator was opened, when a water notice began, and when the next update is expected. If you only know a range, write the range. The last time a system was seen working can support a decision later.

Use one clock as the household reference and identify the time zone if you will speak with people elsewhere. Give each log entry a short label so someone can find it quickly. Use words such as “observed,” “reported,” and “estimated” to show where the information came from. Add the source for public instructions and distinguish the place covered by the notice from your own address.

Read a line back

If someone says water service returned, ask whether they saw pressure at a tap, heard a utility notice, or heard it from a neighbor. Each report is useful in a different way. Restored pressure and a lifted advisory are separate pieces of information. Make the same distinction for refrigerator power and safe food temperature.

SOURCE KEYS HWADV HFOOD

How to Read an Official Notice

A notice is useful when you can match it to your location and the service you are using. Write down the issuing agency, the affected area, the time, and the action it requests. Check boundaries that matter locally, such as a city limit, water service district, or electric circuit. A neighbor across the road can be served by a different system.

Save a screenshot or a brief transcription if communications are unreliable. Keep any change from the previous instruction with its own time and source. If a message has passed through several people, look for the original agency announcement before acting on claims about whether a warning was lifted.

Explain it to someone else

Try putting the notice into one sentence with the action first. For example, tell the household to use bottled water for the uses listed by the provider and explain where to find it. Preserve the original wording of the notice in your log if it matters to a decision. Keep the household interpretation separate so another person can compare the two later.

SOURCE KEYS HWADV HKIT

Household Routines on the Second Day

Start the second day by taking stock of what is changing. Count the water available for drinking and food preparation. Check which foods are still usable and which meal can be prepared with the available water and fuel. Identify one urgent appointment or service that might be interrupted. Decide the next action for each item.

Divide the day into manageable blocks. Daylight may be best for fetching supplies, reading instructions, and checking an outside area from a safe position. Set a time for washing, eating, calling relatives, and resting. Make sure the people doing care work get a handoff and a chance to rest as well.

Keep one task in reserve

Power or water may return briefly, or transportation may be available at a different time than expected. Choose an action you can do quickly if that happens. It could be confirming a utility notice, replenishing drinking water from an approved source, or charging a device you need. Give it to a specific person so useful time does not pass while everyone considers options.

SOURCE KEYS HWSTORE HWADV HFOOD HOLDER

A Checklist for Leaving the House

Start with people, pets, destination, and route. Check that someone knows where you are going and how to contact you. Pack the essentials each person needs to function for the trip, including necessary medicine and support devices. Add water and food appropriate to the travelers, along with accessible directions and a way to navigate offline.

Think about how you will load the vehicle or reach the pickup point. Keep the path clear and give one person responsibility for a final head count. If time and conditions permit, retrieve documents and close up the house in line with local instructions. Immediate safety takes precedence over tasks inside the building.

Practice with a time limit

Give the household ten calm minutes to assemble for a hypothetical departure. See how many hands are needed to move a carrier, mobility aid, and bag. Write down the things that took longest to locate. Repeat the drill after you move those items or clarify who brings them. Time the process with and without the person who usually organizes it.

SOURCE KEYS HKIT HOLDER HPETS

Coming Home After an Interruption

Before returning, look for the latest instructions from the authorities responsible for the area. Conditions can differ between two roads or blocks. A building with signs of structural damage, electrical hazards, or contamination may need professional clearance before occupants enter. If you need help interpreting conditions at a rental property, contact the building manager or relevant local office.

Once the premises can be entered safely, take stock before settling in. Check for active water leaks, food that may have warmed, and instructions from the drinking-water provider. If the premises are damp, follow public-health guidance for drying and mold cleanup. Open a new log entry for the return. Keep any public notice or utility instructions with the household record so you can tell which decisions were made on what information.

Choose the next usable room

Pick a room with a safe path, good light, and enough space for a small inventory. Put supplies into groups that are easy to recognize. Set aside questionable items for safe disposal or professional advice as appropriate. This small staging area can make the rest of the return easier to organize, particularly when several people arrive with different information.

SOURCE KEYS HCLEAN HMOLD HWADV HFOOD

A One-Hour Household Exercise

Set an hour aside when an exercise will not interrupt care or compromise safety. Choose a scenario that matches your home. For example, assume commercial power is unavailable until tomorrow afternoon and the usual grocery store is closed. Give the household the facts and a start time.

Run the planning exercise without switching off essential equipment. Locate lights, check the contact sheet, count usable drinking water, and describe how supper would work. Pick one official channel to check and record where the information was found. Ask someone who normally does not handle supplies to explain what they would do if they found an unclear container or if the refrigerator temperature could not be verified.

Fix the first gap

When the hour is up, ask each participant what slowed them down. Choose one concrete correction and make it while the exercise is fresh. A label, moved flashlight, or written alternate contact may remove the largest barrier. Record a date to test the correction again. If the household's needs change, run the relevant portion with the new people or equipment involved.

SOURCE KEYS HKIT HOLDER HWSTORE HFOOD

Water and Sanitation

Size the Drinking-Water Reserve

Start with the number of people, then work in days. CDC suggests storing at least one gallon per person per day for three days and building toward two weeks if possible. This allowance covers drinking and other essential uses such as food preparation and brushing teeth. Add a separate amount for pets and consider higher needs in hot conditions or for people who are ill or pregnant. A full sanitation routine can use substantially more.

A household of four starts with twelve gallons for three days. Moving from three days to seven adds sixteen gallons before pet needs or a hot-weather reserve. Make sure the people who will move the water can manage the containers. Several smaller vessels can make a larger supply easier to retrieve and share.

Keep a reserve you can see

Label drinking water and count unopened containers separately from those already in service. Track what you actually use over a normal day of meals, drinking, and basic hygiene. Compare that observation with the plan. Set a threshold well before the final container empties so someone has time to verify a resupply point.

SOURCE KEYS HWSTORE HKIT

Where to Put Stored Water

Place water in an area that stays reasonably cool, out of direct sunlight, and away from fuels, pesticides, and other toxic materials. CDC gives a preferred storage temperature of roughly 50 to 70 degrees Fahrenheit for home-filled water. Choose storage that will remain reachable in the events most likely at your address. A low shelf can be easy to reach in one house and vulnerable to flooding in another.

Use containers intended for potable water. Smaller containers let one person carry supplies while larger containers can work as a stationary reserve. Set full containers on a stable surface rated to carry the weight. Leave a clear route to the exit and to the place you use the water.

Rotate by type

Follow the date and storage instructions for commercially bottled water. For water you fill yourself, mark the fill date and replace it every six months following CDC guidance. Put the oldest usable containers where they are easiest to reach and schedule the next check. An inventory should account for damaged seals, leaking containers, and anything that has been moved since the last count.

SOURCE KEYS HWSTORE

Prepare Containers for Potable Water

Start with a clean vessel designed to hold drinking water, with a cover that closes tightly. A narrow opening helps keep hands and utensils out of the supply. Keep any vessel that once held fuel, pesticide, or another toxic product out of the potable-water system. A container's old use can matter even when the interior looks clean.

CDC recommends washing the storage container with soap and rinsing it thoroughly, then sanitizing it before filling. For the container sanitizing solution, use one teaspoon of unscented household chlorine bleach containing 5 to 9 percent sodium hypochlorite in one quart of water. Wet all internal surfaces, leave contact for at least thirty seconds, pour out the solution, and let the empty container air-dry. Fill with clean water and close it securely.

Mark the purpose

The container sanitizing mixture is much stronger than the mixture used to disinfect drinking water. Label temporary measuring containers clearly and prepare each solution for its intended task. Use a separate pouring pitcher or a clean scoop, and keep hands out of the stored supply. Write the fill date beside the label for drinking water.

SOURCE KEYS HWSTORE HWTREAT

Choose the Source Before the Method

When the regular water supply is uncertain, start with unopened commercially bottled water or a verified supply from the responsible utility or local authority. Find out which containers or vessels were filled before the problem and which may have been exposed. Use the available information to separate water by status before deciding whether any of it needs treatment.

The water source determines which household treatment is suitable. A boil advisory points to a different response from an advisory involving a chemical or toxin. Water that may contain fuel, toxic chemicals, or radioactive material requires a different safe source. Household boiling and disinfection do not remove those hazards. Ask the water supplier or health department which uses are allowed.

Pick the next supply now

Write down the name and location of a water distribution point once local authorities confirm one. Include when it opens, whether it supplies containers, and which road or entry is usable. Identify one alternative in case the announced source runs out or its hours change. Keep a small amount of known-safe water available while someone verifies the next supply.

For a radiation emergency when alternate drinking-water supplies run low, see p. 474. Follow any local restriction on tap water.

SOURCE KEYS HWSTORE HWTREAT HWADV

Three Kinds of Water Advisory

An advisory from a water provider or health authority applies to a defined system and period. Write down the exact wording, the date and time, the area covered, and the uses it permits. Check the conditions for your own address, including which provider serves it.

A boil-water advisory generally allows commercially bottled water or water boiled as directed for drinking and preparing food. A do-not-drink advisory calls for an alternative for uses that involve swallowing, such as drinking, cooking, making ice, and brushing teeth. A do-not-use advisory means the authority considers contact with tap water unsafe. Use bottled water and follow the provider's directions for the affected system. During any of the three types, avoid water and ice from appliances connected to the line.

Put the instruction at the tap

Use a visible label so a tired person or visitor knows which supply to use. Apply the label to connected dispensers as well. Leave it in place until the issuing authority lifts the advisory and gives any instructions for returning the plumbing and appliances to service.

SOURCE KEYS HWADV

Boil Water When Officials Advise It

CDC recommends commercially bottled water when available during a boil-water advisory. For tap water that local instructions allow you to boil, bring it to a strong rolling boil. Keep it boiling for one minute. If you are above 6,500 feet, extend that to three minutes. Let the water cool before use and store it in clean containers with tight covers.

If the water is cloudy, CDC suggests first passing it through a clean cloth, paper towel, or coffee filter, or letting it settle and drawing off the clearer water. This step removes visible material to prepare for treatment. The rolling boil is the part that addresses germs. During a boil advisory, an ordinary pitcher or refrigerator filter does not replace the required boil.

Prepare a safe work area

Work with enough space to move a hot pot safely, and choose a heat source intended for the location. Leave the hot pot away from children and traffic. Mark the cooled batch with its preparation time and use a separate clean container for serving. When a notice identifies chemical contamination, get another source instead of applying these boiling instructions.

SOURCE KEYS HWTREAT HWADV HCO

Emergency Chlorine Disinfection

When local advice permits chlorine disinfection and a preferred safe source or boiling is unavailable, check the bleach label. CDC advises using ordinary unscented household liquid chlorine bleach and following its directions for disinfecting drinking water when the label provides them. Check the concentration of sodium hypochlorite. A dosing instruction for one concentration cannot be applied to another.

For clear water and bleach containing 5 to 9 percent sodium hypochlorite, CDC lists eight drops per gallon when using a dropper. If the water is cloudy, let it settle or strain it first. CDC advises twice the listed dose for water that is cloudy, murky, colored, or very cold. Stir the treated water and wait at least thirty minutes before drinking it. Store it in a sanitized container with a tight cover.

Keep the limits in view

Boiling is more reliable against certain parasites, including Cryptosporidium. Household chlorine disinfection is for germs. Suspected fuel, toxic chemicals, or radioactive material call for an alternate safe source and advice from authorities. Use the full CDC reference for a different concentration or volume.

SOURCE KEYS HWTREAT HWCARD

Match a Filter to the Water Problem

A filter's construction and rating determine what it can remove. Read the product's certified claims before putting it in an emergency plan. A device that improves taste may be useful for a known-safe supply. A device designed for outdoor water may have very different claims. Keep the instructions and check which elements need replacement or protection against freezing.

CDC notes that ordinary portable water filters do not remove viruses. A portable filter intended to remove bacteria needs an absolute pore size of 0.3 micron or smaller, and one intended to remove parasites needs an absolute pore size of 1 micron or smaller. CDC advises a suitable disinfection step after portable filtration for untreated water. A boil advisory still calls for boiling even if water has passed through a home filter.

Use a clean outlet

Keep untreated water and the intake hose away from the clean side of the filter. Set the receiving vessel where it cannot collect splashes. Put the cap on as soon as it is filled and keep filters, measuring tools, and spare parts in clean storage. If you suspect chemical contamination, consult the issuing authority and seek an alternate supply.

SOURCE KEYS HWTREAT HWADV

Water With an Unknown History

During a flood, spill, or plumbing failure, separate containers whose history is uncertain. Write down what you know about the source and how the containers were exposed. Make the same check for ice, water in connected dispensers, and open vessels that could have been splashed.

Clarity, taste, and smell offer an incomplete picture. Harmful germs can be present in clear water, and an unknown odor can signal a chemical problem that boiling or disinfection cannot resolve. Use water from a verified safe source for drinking, cooking, brushing teeth, and other uses named by officials. When the source is genuinely unknown, contact the utility or public health agency for advice before trying household treatment.

Prevent a mix-up

Put questionable containers in a different location from the drinking reserve. Mark them in words, with a date, and use a recognizable container shape or color if practical. Keep the status label visible until the water is disposed of or cleared for a specific use. If someone cannot tell which container is safe, review the arrangement while you have enough verified water to work calmly.

SOURCE KEYS HWTREAT HWADV HCLEAN

Water Already Stored in a Home

If bottled or otherwise verified drinking water is available, begin there. Some homes have other usable supplies, such as ice made before contamination or liquid in sealed canned food. CDC also describes possible water sources inside the home, including a domestic hot-water tank. Suitability depends on the condition of the system and whether the water entered before contamination.

Identify the equipment before attempting to draw from it. A tank used for a building's heating system is a different system and its water is unsuitable for drinking, cooking, or hygiene. Ask an installer about your domestic heater and save its specific safety directions before an emergency. Hot water can burn, and damaged or powered equipment can present other hazards. Do not improvise on a system whose condition you cannot verify.

Use the advisory as a boundary

A supply that was useful during a simple loss of pressure may be unsuitable after a flood or a chemical spill. Check the authority's instructions for the source and intended use. Use safe bottled water while resolving doubt. Put any collected water into a clean labeled container with a tight lid.

SOURCE KEYS HWOTHER HWTREAT HWADV

A Private Well After Flooding

If floodwater reached a well or you suspect damage or contamination, arrange an alternative safe drinking-water source. Flooding can affect the well opening and the surrounding ground, and clarity after the water recedes cannot establish that it is safe. Contact the local health department and a qualified well professional.

Record when the water rose, how close it came to the well, and what equipment was affected. If available, locate the well record and the last test results. Leave electrical or structural inspection and repairs to qualified people, especially when the area is still wet. Ask the health authority about appropriate testing and when sampling should occur after any approved work.

Return only after verification

Keep the temporary water plan in place until the recommended steps and testing establish that the well is suitable again. Treat the household uses that may involve swallowing water as a priority, including cooking, ice, and brushing teeth. A pump that runs and a faucet that flows answer mechanical questions. The test and local guidance answer whether the water should be used.

SOURCE KEYS HWELL HWTREAT HWADV

Move Water Without Contaminating It

Prepare clean food-grade vessels with tight lids before leaving for a water distribution point. Mark them for potable use and keep them separate from equipment that has carried nonpotable water, cleaning agents, or fuel. Bring the means to secure the filled vessels upright so they can travel without spilling or tipping.

Plan the trip around who can lift and carry the weight. Use smaller vessels or a cart when appropriate. If a vehicle is involved, arrange the load before filling so the heaviest items can be moved safely. Protect the openings from dirt during transport. An open container can collect contamination even when the water came from a safe source.

Set up the delivery point

Identify a clean surface for removing the lid or transferring the water after you arrive. Keep any utensils you use clean and keep hands away from the water and the inner surfaces of the vessel. Mark the source and date if you are adding the water to a longer-term reserve. Put a simple label on the container being served so everyone knows which supply is in use.

SOURCE KEYS HWSTORE HWADV

Set Up a Shared Water Station

A usable household water station has a clear supply, a clean way to serve it, and an obvious destination for wastewater. Make it reachable for the people who need it. A small stable jug with a tap can be easier for some people than a heavy bottle that must be lifted every time.

Put the active drinking-water container where it can be seen. Keep the reserve nearby but covered. Provide a clean pouring container or cups and a surface that can be wiped. If a wash station is next to it, label the two uses separately and arrange the work so dirty water cannot splash onto the drinking container. Move other containers away.

Give one person a short check

At a set time, look for leaks, loose covers, wet surfaces, and the amount left. Clean serving items as needed and record when the reserve is opened. If you are relying on a distribution point, verify the next opening before the station runs dry. When an advisory changes, update the signs at each use point, including places where children or visitors might pour a drink.

SOURCE KEYS HWSTORE HHYGIENE HWADV

Handwashing With Limited Water

Use soap and safe water when available. A temporary station can be made with a large jug that dispenses water into a catch basin. Set it up before food preparation and somewhere people pass after using the toilet or handling waste. Place soap and a means to dry hands within reach.

Rub all surfaces of the hands with soap for at least twenty seconds and rinse with safe water. The backs of hands, spaces between fingers, and areas near the nails can be missed if the flow is awkward. Adjust the height or offer assistance where a person has difficulty reaching or using the container. Use a clean towel or let hands air-dry.

Give sanitizer a specific job

When soap and water are unavailable, CDC advises an alcohol-based sanitizer containing at least 60 percent alcohol. A station with soap and water remains important, especially when hands are visibly dirty. Keep sanitizer where young children can use it only with suitable supervision. Empty and clean the catch basin as local wastewater guidance allows, and refill the supply before the next busy time.

SOURCE KEYS HHYGIENE HWADV

Wash Dishes During a Boil Advisory

Read the local notice first. The steps below are for a boil-water advisory when officials permit tap water for washing dishes. Use an approved safe water source or disposable dishes if the advisory forbids tap-water use.

Dishwasher

CDC generally considers a household dishwasher suitable if it has a sanitizing cycle or a final rinse of at least 150°F (66°C). Verify the setting from the manual or manufacturer. If you cannot verify it, use the hand method or disposable dishes.

Hand washing and sanitizing

Wash and rinse with hot water as usual. In a separate basin, mix one teaspoon of unscented household liquid chlorine bleach into one gallon of warm water. Immerse the rinsed dishes for at least one minute, then let them air-dry completely on a clean surface.

Separate the solutions

Use that mixture only for sanitizing dishes. The drinking-water dose is on page 34 and the storage-container solution is on page 30. Sanitize infant bottles and follow applicable guidance for feeding equipment. Keep dirty items separate from cleaned dishes.

See also Water advisories, pp. 32–34, and Handwashing, p. 41.

SOURCE KEYS HWADV HHYGIENE M06

Toilets When Water or Sewer Service Fails

If the tap is dry, first find out whether the building's sewer or onsite wastewater system still works. A toilet bowl with water can be misleading about what happens downstream. A building manager, wastewater utility, or local authority can tell you whether flushing is permitted and whether another arrangement is available. Restrict water use if officials warn of backup or failure.

If an approved alternative is needed, choose the one the local authority recommends. Plan for access, privacy, handwashing, and waste handling before the system becomes crowded. Give children a simple instruction about which toilet to use and who to ask. Let people with mobility needs describe what assistance or equipment would make the setup usable.

Keep drinking water distinct

Store sanitation supplies and used materials away from potable water and food preparation. Provide a separate place to wash hands. Follow local collection and disposal instructions for contaminated materials. If wastewater backs up into a living area, keep people away and obtain guidance from the relevant authority or building manager before cleanup. In an apartment, tell management promptly about any backup that may affect neighboring units.

SOURCE KEYS HSEPTIC HHYGIENE HCLEAN

Protect an Onsite Wastewater System

Heavy rain and floods can saturate the soil that receives effluent from a septic system. In that condition the system may have difficulty accepting additional water. Look for changes such as slow drainage, a backup, or unexpected settling near the system. EPA advises limiting or stopping use when flooding makes the system unable to operate safely and obtaining qualified help.

Map the septic tank and absorption area before an emergency, using the available property records. Tell anyone coming to help where those components are so they avoid driving heavy equipment over them. Keep electrical controls and open tanks out of the household's inspection work. A qualified septic professional can evaluate damage, when it is appropriate to pump, and what is needed before return to normal use.

Review the connection to drinking water

A flood can affect both onsite wastewater and a private drinking-water well. Write down the location of each system and the sequence of events for the local health office. Arrange safe drinking water while officials advise you on testing and repairs. Keep laundry and other high-volume water uses off the recovery list until the wastewater system has been cleared.

SOURCE KEYS HSEPTIC HWELL HCLEAN

Keep Laundry and Debris Separate

Set aside ordinary laundry separately from materials that contacted floodwater or sewage. Clean-looking fabric can carry contamination, and floodwaters can contain waste and other pollutants. Follow public-health advice for cleanup and ask local officials how to handle affected textiles, porous goods, and debris. Place items where children and pets cannot reach them.

Have a place for clean items before cleaning begins. Keep tools used on contaminated material out of the kitchen and away from the water supply. Check whether there is enough safe water and working drainage before starting household laundry. During a drinking-water advisory the permitted uses vary, so confirm the instruction for washing clothes and for contact with water.

Use the local collection categories

Local waste authorities may separate electronics, appliances, household chemicals, building debris, and ordinary trash. Keep unknown products in their original containers when possible and avoid combining them. Make a short list of what must stay isolated until collection. Ask about special pickup or disposal sites before moving material to a curb where it might interfere with travel or expose other people.

SOURCE KEYS HWADV HCLEAN HDEBRIS

When Normal Water Service Returns

A working tap is the first sign of restored service. Wait for the responsible utility or health authority to say that the advisory affecting your system has ended. Check whether the notice includes steps for flushing taps, clearing ice, or servicing appliances and filters. Different systems and contamination events may require different procedures.

Review the household's labels and tell each person which restrictions have changed. Check the refrigerator dispenser and ice maker, any separate drinking filter, and outlets that were rarely used during the outage. If a private well was affected, follow the health authority's requirements for restoration and testing. Keep a reserve of verified water until you can complete the steps that apply to your home.

Rebuild the reserve while the details are fresh

Record how much water remained, how often a container needed refilling, and which activities used more than expected. Replace empty or damaged containers. Note the address and time of any distribution point that worked well and where an alternative would have helped. Put the restored-service notice beside the original advisory in the household log, with dates for both.

SOURCE KEYS HWADV HWSTORE HWELL

Food Storage and Cooking

Start With Food You Already Eat

Use the household's normal meals to guide purchases. Write down three days of breakfasts, lunches, dinners, and snacks people in the household regularly accept. Build versions using food that can be safely stored unopened without refrigeration. Check each package for preparation directions and whether the contents need refrigeration after opening.

An ordinary meal might combine whole-grain crackers, a familiar unopened spread, shelf-stable fruit, and drinking water. A meal that requires heat may use canned beans, vegetables, and a short-cooking grain. People with allergies or prescribed diets may need their usual brands or alternatives approved by the people who guide their care. Keep enough of those items to cover the plan.

Run a shelf-only meal

Make one planned meal while the kitchen is working normally. Track the water used for cooking and cleaning and notice whether the meal leaves perishable leftovers. Look at package sizes and choose smaller ones when the rest will be difficult to keep cold. Place a working manual can opener with the food and check that anyone likely to prepare a meal can use it.

SOURCE KEYS HKIT HSHELF HLEFT

Estimate a Meal's Real Requirements

Give each planned meal a small budget for water, heat, and cleanup. Check whether the package calls for draining, rinsing, or adding water. Count how many utensils and vessels you will have to wash and where that wastewater will go. A meal's total requirements can exceed what its ingredient list suggests.

Some dry staples last well but take more time or fuel than a household has during an outage. Test the actual quantities you plan to serve and note the fuel or electricity involved. Keep at least one meal per day that needs little preparation. Choose an alternative for the day your usual heat source cannot be used safely.

Look at service and storage

Ask whether everyone can eat from the same package or needs an individual portion. A meal served in labeled portions is easier to distribute when people arrive at different times. Avoid planning to hold a perishable meal at room temperature for the late arrivals. Choose smaller unopened servings or plan a separate preparation if reliable refrigeration is unavailable.

SOURCE KEYS HKIT HSHELF HLEFT HCO

Make the First Refrigerator Decision

Keep the door closed and log when power failed. A normally cold, closed refrigerator usually keeps food safe for about four hours. After four hours without electricity or another cold source, discard refrigerated perishables unless you can verify they stayed at 40°F or colder.

Use known temperatures when you have them

If perishable food was above 40°F for two hours or more, discard it even if the outage was shorter than four hours. That is time spent warm. The four-hour estimate is time without power in a closed refrigerator. A reading taken after recooling does not establish the earlier temperature.

Common foods when perishables must go

DISCARD	GENERALLY KEEP
Meat, fish, shell eggs, milk, soft or shredded cheese, opened baby formula, cooked rice, leftovers, and cut produce.	Hard cheese in blocks, butter, intact whole fruit or vegetables, plain bread, and mustard if free of other contamination or spoilage.

Protect the food while it is cold

Move perishables to a cooler with ice and a thermometer before they warm, if you can do so quickly. Never taste food to test its safety. Discard perishables if you cannot establish a safe history.

See also Freezer decisions, p. 50, and Using a cooler, p. 51.

SOURCE KEYS HFOOD HFPO

Decide What to Keep From a Freezer

Leave the freezer shut until you are ready to make a decision. A full, closed freezer may hold a safe temperature for about 48 hours. A half-full, closed freezer may do so for about 24 hours. Record the outage and how full it was.

Check each package

Many thawing foods can be cooked or refrozen if they still contain ice crystals or are 40°F or colder. This includes meat, poultry, seafood, soups, and stews when there is no evidence of earlier unsafe warming. Refreezing can change texture. Discard thawed ice cream and frozen yogurt.

Discard warm perishables

Discard meat, poultry, seafood, soups, and other perishables held above 40°F for two hours or more. Discard food contaminated by leaking raw meat juices. Never taste food to decide whether it is safe.

Be careful after power returns

A cold reading after the freezer has started cooling again cannot establish its earlier history. Use readings taken before restoration, remaining ice crystals when first checked, and the outage record. If you cannot establish safe conditions for a perishable food, discard it.

See also Refrigerator decisions, p. 49, and Using a cooler, p. 51.

SOURCE KEYS HFOOD HFPO

Use a Cooler as Cold Storage

Add enough ice or frozen packs to keep perishable food at 40°F or colder. Put an appliance thermometer inside. Move food while it is still cold, and write down when it entered the cooler. Replenish ice before it runs out.

Pack to prevent contamination

Keep raw meat, poultry, and seafood in leakproof packages, separated from ready-to-eat food. Keep the cooler out of direct sun where practical. Use a separate drink cooler if people will frequently open it. Keep the food cooler closed between checks.

Track the time above 40°F

If the cooler warms, check the affected food and use the time and temperature records. Discard perishables held above 40°F for two hours or more. Adding ice afterward does not restore safety. A new cold reading cannot reconstruct an earlier gap.

Decide what needs the space

Keep cold storage for milk, eggs, meat, leftovers, and other perishables. Whole uncut fruit and plain bread can generally stay out of the cooler. See page 49 for common discard decisions. Keep food and temperature-sensitive medicine in separate setups if their temperature or handling requirements differ.

See also Refrigerator and freezer decisions, pp. 49–50.

SOURCE KEYS HFOOD HFPO HFOUR M03

Read the Package Before Storing It

Look for the storage instruction on the package. Some canned and vacuum-packed products still require refrigeration, and a shelf-stable product may need chilling once opened. Keep the original label where practical so the next person can verify the ingredients, any allergy information, and what the manufacturer asks you to do.

Many quality dates on shelf-stable foods indicate the period when the maker expects the product to taste or perform best. Storage conditions, package damage, and the type of product still matter. Infant formula carries distinct date requirements and should be used according to its instructions. If a product requires cold storage and you cannot maintain it, plan another option.

Make the shelf self-explanatory

Arrange packages so the name and date are easy to see. Put likely next meals close to the opener, mixing bowl, or serving item they require. Keep food away from water leaks, chemicals, pests, and large swings in temperature. At each inventory check, move older usable items forward and set aside packages with uncertain condition. A pantry people regularly use is easier to keep current.

SOURCE KEYS HDATE HSHELF HCANS

Inspect Cans Before Using Them

Examine a can or jar while it is still closed. A bulging, leaking, severely dented, or damaged package can indicate loss of the protective seal. Check seams and lids where harm can be difficult to see from the shelf. USDA advises discarding suspect packages. Do not open or taste a suspect product to learn whether it is safe.

If flooding reached the storage area, apply the separate FDA flood-food guidance. Many common closures cannot be adequately cleaned after floodwater contact, even when the item looks closed. The FDA makes a narrow exception for certain undamaged commercial all-metal cans and retort pouches that can be properly cleaned and sanitized. Use its procedure or discard the item if its condition or exposure is uncertain.

Preserve information for the next meal

Keep useful labels intact on food you decide to keep. If a can is part of a recall, compare the lot code or identifying information with the official notice. If you cannot determine whether an item falls under the recall, hold it out of the meal while you verify. Replace discarded food from a supply with an intact seal and a known history.

SOURCE KEYS HCANS HSTORMFOOD HFDA

Set Up a Small Clean Kitchen

Choose a stable work surface with enough light to see labels and thermometer readings. Make safe water, soap, clean utensils, and a waste container easy to reach before opening food. Keep the sink or handwashing station accessible. Clearing an entire room is rarely necessary if the work surface and traffic routes can be managed safely.

Set one area for raw foods and another for ready-to-eat items. Prepare foods that will be eaten without cooking first if that makes separation easier. Keep raw meat, poultry, seafood, eggs, and flour away from clean plates and serving utensils. After handling them, wash hands, utensils, boards, and food-contact surfaces with the methods appropriate to your water advisory.

Cook with fewer transfers

Measure ingredients and lay out the clean serving utensils in advance. If space is tight, put clean items on a separate tray and bring them to the work area only when needed. FoodSafety.gov advises against washing raw poultry and similar animal foods because splashes can spread germs. Safe cooking and a clean work surface are more reliable controls.

SOURCE KEYS HFOUR HHYGIENE HWADV

Check Cooking Temperatures

Set a food thermometer next to the cooking utensils. Put the probe into the thickest part of the food away from bone, or follow the appropriate technique for thin foods. Check more than one location in foods with uneven thickness. Clean the probe before using it on cooked food if it has touched a raw or partly cooked item.

Federal minimum temperatures include 165 degrees Fahrenheit for poultry, including ground poultry, and for reheated leftovers. Ground beef, pork, lamb, and veal require 160 degrees Fahrenheit. Whole cuts of beef, pork, lamb, and veal require 145 degrees Fahrenheit followed by a three-minute rest. Use the full federal chart for other foods and recipes.

Make one person responsible for the final reading

If several people share cooking, ask the person who checked the thermometer to say the reading and when the food will be served. A browned surface and clear-looking juices do not establish the temperature at the center. Write a temperature or a time on the meal note if you will need to decide how to handle leftovers later.

SOURCE KEYS HTEMP HFOUR HLEFT

Decide About Leftovers Before Cooking

Choose a portion you can serve promptly, especially if the refrigerator or cooler has limited capacity. USDA advises refrigerating perishable leftovers within two hours, or within one hour when the temperature is above 90 degrees Fahrenheit. Use smaller shallow containers so food can cool more quickly in a working refrigerator. Use refrigerated leftovers within three to four days or freeze them for longer storage.

A warm room and a food container with a lid offer no reliable refrigeration. Keep the meal plan simple enough that extra food can be handled immediately. If the household has no reliable way to cool leftovers, plan fewer servings or use individually sealed portions for later eaters.

Set a time and label the container

Write down the time the food was prepared, the time it entered cold storage, and the date to use or discard it. During intermittent power, note any loss of cooling separately. Reheat leftovers that were handled safely to 165 degrees Fahrenheit. Reheating does not reverse the risks of extended warm storage. Use a fresh meal when the history is unknown.

SOURCE KEYS HLEFT HTEMP HFOOD

Thaw Only What Can Be Cooked Safely

Use a refrigerator that stays at 40 degrees Fahrenheit or colder for gradual thawing. Keep the food in a container that catches liquids and put it below ready-to-eat foods. A freezer outage can thaw items unexpectedly, so check their condition and the applicable federal chart before planning to cook them.

USDA recognizes cold-water and microwave thawing as other safe methods when done properly. Cold-water thawing requires a leakproof package and access to clean cold water. USDA advises changing that water every thirty minutes and cooking the food immediately once thawed. Food thawed in a microwave should also be cooked immediately. Keep food off the counter while it defrosts.

Make a fallback meal

Before beginning, verify that the stove, safe water, utensils, and thermometer are ready. An interruption may leave a half-prepared meal you cannot keep cold. If the power or outdoor conditions are unreliable, choose a shelf-stable meal and leave safely frozen food in the closed freezer. That decision preserves both the meal and the equipment's cold reserve.

SOURCE KEYS HTHAW HFOOD HFOUR

Plan a Meal That Needs No Flame

Choose foods that are ready to eat as packaged and usable at the expected temperature. Common options include properly stored commercial canned foods labeled ready to eat, shelf-stable crackers, suitable spreads, and some fruits. Check ingredients and preparation instructions for the people who will actually eat the meal. Keep safe water available for drinking and handwashing.

A no-flame meal can be a dependable option when conditions outside prevent safe cooking, the building prohibits outdoor equipment, or the person who normally cooks is away. Arrange it as a real meal with portions and serving utensils. Small packages are useful when a larger opened container would leave food that needs cold storage.

Check the opening and cleanup steps

Test the opener and make sure there is enough light to see damaged seals or labels. Keep a clean tray where the food can be served and a place for packaging or scraps. If the meal includes an opened perishable ingredient, eat it promptly and manage any remaining portion under the same rules as other leftovers. Store the next no-flame meal in a place everyone knows.

SOURCE KEYS HKIT HSHELF HLEFT HCANS

Outdoor Cooking and Carbon Monoxide

Grills, camp stoves, and other portable fuel-burning devices produce exhaust that can contain carbon monoxide. Keep grills off porches and balconies and away from siding, deck rails, and eaves. Use outdoor camp stoves only in an open outdoor location away from doors, windows, and vents. Follow the manufacturer’s directions and local fire restrictions.

Arrange cooking so people can move around it without passing between the heat source and the cook. Choose a level location and keep children and pets away from hot equipment. Do not bring a grill or portable outdoor burner inside for heat or cooking when the weather worsens. Have a meal ready that can be served without using it.

Prepare for the end of the meal

Know how the equipment is shut down and how long hot parts remain a hazard. Keep a clear path from the work area to the house and have adequate light. If a carbon monoxide alarm sounds or exposure is suspected, get people to fresh air immediately and contact emergency services. A working alarm is an extra layer of protection in the building.

SOURCE KEYS HCO HKIT

Serve Different Needs From One Pantry

Inventory the foods people can actually eat. Some households need products with specific ingredients, textures, or portion sizes. Preserve labels and include foods that have worked in ordinary meals. Ask the person affected or their clinician about individualized dietary requirements before selecting a substitute for something they rely on.

Plan a shared base and separate additions when that fits the household. A shelf-stable grain or vegetable might serve several meals while another item is reserved for one person. If there is a serious allergy, use a dedicated clean setup for that person's food and check for cross-contact with ingredients, utensils, and surfaces. Use the same care if supplies were repacked.

Write the substitutions in advance

A person doing the shopping may see unfamiliar brands or sizes. Give them a short list of acceptable choices and the exact item to check on the label. Record which foods must stay cold and how they can be used if cooling is interrupted. If the household relies on specialized formula or another medically directed product, plan a verified alternative supply with the relevant provider.

SOURCE KEYS HKIT HOLDER HSHELF HFOUR

Food That Contacted Floodwater

Start by isolating all foods and food-contact materials that may have been exposed. Floodwater can carry sewage and chemicals. Use FDA and local instructions to decide what can be kept. Throw out foods in packages that cannot be effectively cleaned, including cartons, screw-top containers, and home-canned jars that contacted floodwater. The outside of a package may be contaminated even if the contents appear sealed.

FDA describes a salvage procedure for some undamaged commercial all-metal cans and retort pouches. Follow the full procedure when it applies and safe cleaning water is available. Discard damaged packages or anything for which you cannot establish the type of closure and exposure. Never taste a product to decide whether it is safe.

Set up a different meal station

Use an area that has been cleared and has safe water and clean utensils. Keep discarded foods away from children, pets, and items awaiting inspection. If a nearby garden flooded, apply the guidance on crops separately. A plant that looks healthy after the water recedes can still have been contaminated. Replenish food from sources that were outside the flood or are known to be safe.

SOURCE KEYS HSTORMFOOD HFDA HFLOODCROP

Use Tested Preservation Methods

Home preservation can extend a seasonal supply when equipment, time, and safe conditions are available. Use tested instructions from a trusted public source and choose a recipe that matches the food, jar size, equipment, and elevation. Keep the complete instructions with the materials. A familiar family recipe can be excellent for dinner while requiring a tested replacement for canning.

CDC warns that low-acid foods, including many vegetables and meats, require pressure canning under a tested process. A boiling-water canner cannot supply the required treatment for those foods. A pressure-cooking appliance is not automatically a suitable pressure canner. Check the tested method and equipment requirements before beginning.

Plan for a stopped process

A power or fuel interruption can prevent completion of the required treatment. Keep the full tested directions and the appropriate extension contact available so you can follow the proper response. Do not rely on whether a lid sealed or a food smells normal to judge the safety of a home-canned product. Choose other verified food when processing or storage is uncertain.

SOURCE KEYS HCANNING HFOOD

Rotate a Pantry Without Waste

Use the shelf in regular meals. Put older usable products at the front and keep enough information on the package to recognize what you are using. After a meal, add replacements to the shopping list. A pantry that is regularly drawn down and replenished gives people practice cooking with the foods they would have during an outage.

Give the inventory a few categories that match how you cook. Count complete meals, snacks, and foods reserved for particular needs. Mark items that have to be cooked, require additional water, or need refrigeration after opening. A label such as “one dinner for three, add water” can make the number of workable meals easier to see than a bare count of cans.

Review the rarely used items

If something remains untouched for months, ask whether you would actually use it. Try it while ordinary services are available or replace it with a food the household wants. Review the packaging for damage and store the food as directed. Keep the reserve independent of any single freezer, refrigerator, or cooking method so an outage does not disable the whole pantry.

SOURCE KEYS HKIT HSHELF HDATE HCANS

Check Food When Power Returns

Write down when the appliance regained power, what you know about the length of the interruption, and any readings taken before it returned. A current reading describes current conditions. It may not tell you how warm the food became earlier. Evaluate refrigerator and freezer items separately using the federal chart.

Clean food-contact surfaces after any leaks, especially if packages of raw animal food thawed and dripped. Follow the appliance directions and use safe water if an advisory remains in force. Discard food that cannot be verified as safe. If you plan to refill the refrigerator, first confirm that it has returned to a reliable temperature of 40 degrees Fahrenheit or colder.

Replace the functions you lost

If the outage emptied the freezer or forced several meals from the pantry, write down which replacement would help most. An additional thermometer, smaller packages, or a second shelf-stable meal can matter more than filling all the storage space at once. Update the food list and note what the household was able to cook safely while power, water, or cooling was limited.

SOURCE KEYS HFOOD HFDA HFOUR HWADV

A Three-Day Kitchen Exercise

Choose a normal week in which to practice three days of meals from an outage pantry. Keep essential equipment operating. Use the appliances and alternatives in the exercise only as safely intended. At each meal, record the ingredients, water, time, and method of cleanup you would need under the chosen scenario.

Make the scenario realistic. Assume the freezer door stays closed through the first day and a refrigerator cannot support leftovers indefinitely. Include one meal prepared by someone who rarely uses the reserve. Put the usual can opener somewhere else for that meal only and see whether the household can find its planned backup. Record the difficulty and retrieve the ordinary opener if the backup fails.

Compare the plan with what happened

At the end, add up the usable meals and the unopened items that were never needed. Review whether people had enough food they could eat and whether the water estimate covered cleanup as well as cooking. Adjust package sizes, cooking requirements, or the storage arrangement. Set a date to review the plan after a seasonal change or a new dietary need.

SOURCE KEYS HKIT HFOOD HLEFT HWSTORE

Food Supply and Household Logistics

Plan Food Supply by Time Horizon

Food that will be ready in six weeks cannot cover supper tonight. Write separate plans for the first three days, the following week, and later months. Near-term supply usually comes from food already in the house or from a reliable distribution point. A garden, community market, or recurring group purchase may help later if it is operating when needed.

Mark each source with its likely timing and the work required to use it. A sack of flour requires a way to turn it into meals. A garden requires safe ground, water, attention, and time before harvest. A neighbor with surplus produce may still need a way to deliver it. Keep a little overlap between stages so a delay at one source does not leave a gap.

Place the first order of work

Count complete meals and safe drinking water first. Verify which local sources are open next. Then decide whether there is time and capacity for longer-term growing or preservation. The best long-term plan can start as one small task done reliably, such as tending a few containers or checking a market that opens each week.

SOURCE KEYS HKIT HMARKET HVEG HSHELF

Choose a Garden You Can Maintain

Start with the time, water, space, and people you have available. Pick a few crops that your household will eat and that suit your conditions. A small bed tended regularly can teach you how watering and harvest fit the household schedule. Observe one season before using estimated yields as a food commitment.

A household that enjoys fresh greens may learn more from several short plantings than from putting every seed in the ground at once. Someone with reliable storage and a longer growing season might choose different crops. Compare space, likely time to harvest, and how quickly each crop needs to be used. Use advice for your locality and the varieties you bought.

Track actual results

Write down the planting date, the expected harvest date, and the date you first harvested. Keep a running count of servings or meals as the harvest comes in. Note anything that changed the result, such as a heat wave, missed watering, or unexpected shade. Use the record to decide what to grow again and where buying or trading would be more reliable.

SOURCE KEYS HVEG HHARVEST

Build a Calendar for Your Location

Find a planting calendar from a nearby cooperative extension office or other qualified local source. Conditions can vary widely within the same state. A sunny protected yard, a coastal location, and a high-elevation site can have different temperature patterns even when the driving distance is small.

Use local frost information and the crop's temperature requirements when choosing a planting window for annual vegetables. The USDA Plant Hardiness Zone Map describes the average annual extreme minimum winter temperature and helps assess cold hardiness, especially for perennial plants. For planting annual vegetables, use additional local information on frost, season length, and the current outlook.

Mark a planting window

Put a plausible range beside planting and harvest dates. Seed packets may give estimated time to maturity from the date of transplanting or the date of sowing. Record what the packet says. Build enough flexibility for a late frost or unusually hot week. If household food depends on a deadline, use a source that can meet it independently of the garden and add the harvest when it comes.

SOURCE KEYS HVEG HZONE HHARVEST

Check the Ground Before Planting

Visit the proposed site in the morning and afternoon. Observe how long it is lit, where water collects, and whether there is a nearby safe source for watering. A route that lets you carry tools and harvest without squeezing past hazards can matter as much as a little extra space. Talk to other occupants or the landowner before changing shared ground.

Check the site's history. Older paint, previous industrial uses, and some other conditions may leave contaminants such as lead in soil. EPA recommends practical ways to reduce exposure, including raised beds filled with clean soil. Ask a qualified local resource about soil testing and suitable crops if there is reason for concern. Ordinary nutrient testing may answer a different question from contamination testing.

Give a new plot a clear boundary

Choose soil and materials with known histories and mark where people should walk. Keep garden tools and dirty footwear separate from food preparation. Use clean water to wash produce before preparing it. When the land history is uncertain, containers with suitable clean growing medium can provide a manageable starting point while you get site-specific advice.

SOURCE KEYS HLEAD HVEG HPROD

Grow in Containers With a Simple Routine

Container growing can work for renters and for homes with limited ground. Check the building's rules, the weight the site can carry, and how water will drain before setting out containers. Choose a container and growing medium suitable for the crop. A small pot can heat and dry quickly. A larger one may be difficult to move after it is filled.

Watch the moisture over several days. A container's watering needs change with the crop, the size of the pot, wind, heat, and available sunlight. Assign a backup person or plan for times the usual gardener is away. Group containers with similar needs so the job can be done without repeatedly moving heavy equipment.

Plan the handoff

Put a simple tag on each container with the crop and the date it was planted. Add any instructions that someone covering the routine would need. Keep the path to the containers clear and use a clean way to deliver water. Check after a hot or windy day to see how the growing setup performed, then adjust the routine before adding more containers.

SOURCE KEYS HCONTAIN HVEG HLEAD

Keep a Small Seed Inventory

Write the crop, variety, and year on each packet or envelope. Keep the lot information if you have it. Arrange seeds by when you expect to use them and keep them cool and dry as the variety or supplier recommends. An inventory helps you find a backup choice quickly after a delayed planting or poor emergence.

Some homegrown seeds produce plants with traits different from their parent, especially if saved from hybrids or varieties that cross with nearby plants. Choose intentionally when saving seeds. Use extension guidance for the particular crop. If a crop is important to your plan, keep reliable seed or another source available while you learn how the saved seed behaves.

Test a small sample

When a packet is old or its storage history is uncertain, test a small sample before relying on it. Record the starting count, the date, and how many seeds sprout under conditions suited to that crop. Use the result to decide whether to plant more, replace the packet, or choose another variety. Keep a copy of the planting directions with the seeds.

SOURCE KEYS HSEED HVEG

Stagger Planting Around Household Demand

Work backward from the weeks when your household can use the harvest. Some crops come in a short flush, while others can be harvested over several weeks. Several small plantings can spread the work when the crop, season, and weather permit it. Use the local planting window and cultivar instructions to decide whether a later planting still has enough time.

Leave room to harvest and move equipment. Sketch the beds and label planting dates. If a crop fails, check likely causes before planting again in the same place. Temperature, soil moisture, pests, and seed condition can produce similar-looking gaps. Keeping records makes the next attempt more informative.

Plan for both a small and a large harvest

Choose one use for a small harvest and another for a larger one. A small amount might go directly to the next meal. A larger amount may require rapid cooling, sharing, or an appropriate tested preservation method. Decide who will do that work and when. Keep the number of new plantings small until you see how the harvest and cleanup fit the household routine.

SOURCE KEYS HVEG HHARVEST HCANNING

Budget Water for the Garden

Estimate gardening water separately from potable water for people and food preparation. Ask what sources are permitted and suitable for irrigation. Follow current drought restrictions and public-health instructions when water quality is in question. If the household is short of safe drinking water, a large garden can add work without immediately solving a food problem.

Check the soil where roots are growing. A quick glance at the surface can be misleading. University of Minnesota Extension notes that mulch can help retain moisture and that soil conditions should guide watering. Containers often need more frequent checks than beds. Observe actual use so you can match the garden area to the water you can reliably supply.

Decide what to keep during scarcity

Pick the plantings that matter most before water is limited. The choice might favor established plants close to harvest or a small container that provides food regularly. Set a point at which you reduce plantings or stop a trial. Record how much time and water your chosen setup needs during the hottest part of the local season, then use that information to revise the next planting.

SOURCE KEYS HGWATER HCONTAIN HWADV HWSTORE

Observe Crop Problems Before Acting

Look at which plants are affected, when the damage began, and whether it follows a pattern in the bed. Take a clear photograph if possible and record conditions such as recent rain, heat, or a change in watering. An identification from a county extension office or another qualified local resource can prevent unnecessary work or inappropriate treatment.

Try straightforward cultural adjustments when they fit the identified problem, such as changing watering practice or correcting crowding. Use the product label for any pesticide you choose, including which crops and pests it covers and the required interval before harvesting. Keep the product in its original container and store it away from food and children. Ask for help if the instructions or the crop identification are uncertain.

Keep the rest of the garden usable

Mark affected plants and handle the harvest from them separately while you are deciding what to do. Record the decision and watch whether conditions improve or spread. A clear note lets a second person help without making a different assumption. If the problem could involve contaminated soil or water, get appropriate local advice before serving produce.

SOURCE KEYS HPEST HVEG HLEAD HPROD

Harvest Only What You Can Handle

Choose containers that are clean and fit the crop. Inspect produce at harvest and separate anything with decay or significant damage. Avoid dropping heavy items on tender ones. Take what the household can promptly use or store. Cooling or other storage needs vary by crop, and some vegetables store poorly next to items that create moisture or release ripening gases.

At the kitchen, FDA advises washing produce thoroughly under running water before preparing or eating it, using safe water. Use a clean brush on firm produce if needed and keep produce away from raw meat, poultry, and seafood. Avoid washing produce with soap or detergent. For storage conditions, check a reliable reference for the specific crop.

Choose the order of use

Put damaged but sound items intended for immediate use in a separate spot and discard rotting produce. Keep the clean harvest away from field tools and dirty containers. Write the date and the planned use on anything going into storage. Share or prepare an abundant harvest promptly so a good growing week does not become a pile of food that cannot be handled safely.

SOURCE KEYS HHARVEST HPROD HFOUR

When Floodwater Reaches a Food Garden

After a flood, draw the edge of the affected area on a simple sketch and record the approximate water height. Separate affected plants and produce from crops outside the inundated area. FDA advises against eating crops whose edible portions have contacted floodwater because exposure can include sewage, chemicals, and other hazards. Ordinary rinsing cannot reliably address this exposure.

For crops whose edible portions appear to have escaped contact, local circumstances still matter. Ask a qualified local agriculture or health authority what information they need to assess the site. Tell them whether the flood came from a river, storm runoff, or another source and what nearby hazards are known. Avoid moving questionable produce into the kitchen or offering it to others while the decision is pending.

Decide how to resume

Take photographs if safe and keep records of the crop and location. Ask about cleanup, soil considerations, and when to replant before putting the area back into use. In the meantime, obtain food from a source outside the affected area. If a private well may also have flooded, follow the well guidance before using that water.

SOURCE KEYS HFLOODCROP HWELL HCLEAN

Compost Only What the Setup Can Handle

A small household compost area can recycle some fruit and vegetable scraps, dry leaves, and similar material. EPA's home composting reference distinguishes suitable ingredients from items likely to attract pests or create other problems. Keep meat, fish, dairy, fats, and pet waste out of an ordinary backyard compost pile. Check any local rules for how the site must be managed.

Pick a location the household can reach without tracking material through the kitchen. Keep appropriate dry material on hand and add it as needed. Review the system after heavy rain or a long interruption in routine. If the pile becomes a nuisance or the household cannot tend it, use the locally approved waste or collection service instead.

Keep cleanup wastes out

Disaster debris, sewage-contaminated materials, and unknown chemicals belong in the appropriate local waste stream. Keep the ordinary compost supply distinct so someone can recognize where food scraps go. The compost plan should work without requiring the next person to guess which container holds clean material. Record where the system is and who is expected to check it.

SOURCE KEYS HCOMPOST HDEBRIS

Verify Local Food Sources

Before an emergency, identify grocery stores, food banks, markets, and farm outlets that are realistic to reach. USDA's Local Food Directories can help locate established markets and some of the services they offer. Keep a short paper list with locations, normal hours, and ways to confirm current operation. Add an option in a different part of the area.

A directory records an outlet's usual arrangements. The hours, products, and payment options may change during a disruption. Verify with the operator or official local announcement before leaving. Ask if the source requires an appointment, offers pickup only, or has limits per household. Record when the information was confirmed so another person can tell how current it is.

Plan the actual collection

Give the person doing the pickup an address, expected travel time, and a suitable way to carry the food. Include an iced cooler and thermometer if the order contains perishable items and safe cold storage is available. If a source offers an acceptable substitute, check that it meets the household's dietary needs before bringing it home.

SOURCE KEYS HMARKET HFOOD HFDA HKIT

Share Food Without Losing Its History

If neighbors share surplus food, preserve original labels whenever possible. For an item that has been transferred into another container, identify the contents and the ingredients you know. Keep perishable food cold as required and agree on a pickup time. A recipient needs a usable storage history to decide whether the food fits their household.

Choose a handoff point that works for both households. Let the recipient know if there are limits on pickup, or if an item must be used promptly. Consider offering unopened shelf-stable items first when refrigeration or travel time is uncertain. If you are organizing food for a group, use public-health or site-specific food-service guidance for that setting.

Keep uncertainty visible

Tell the recipient if you cannot verify an ingredient, the source of produce, or whether a package was exposed during a flood. They may have dietary requirements you do not know. Do not offer perishable items with a questionable temperature history. A quick text or a readable paper note can carry the information that would otherwise be lost between the original pantry and the person using the food.

SOURCE KEYS HFDA HFOOD HFOUR HPROD

Count Complete Meals Instead of Packages

Look at the pantry as a set of meals. A package of dry pasta may cover several servings when there is safe water, heat, and a way to clean up. A single can of soup may serve fewer people than the label suggests for the actual meal. Count what works under the conditions you expect and reserve food needed for special diets or age groups.

Make one line for each usable meal and note what it needs. A day with three meals for four people needs twelve usable servings, even if the pantry holds many more packages. Choose a unit that helps you see the real gap. For some foods it makes sense to count individual servings, while for others it is clearer to count a whole meal.

Update the figure when conditions change

If the cooker fails, move meals that require it to a separate column. If refrigeration returns, count only food with a verified storage history. Add arrivals and departures to the head count. Adjust the plan together so everyone knows which shelf or supply is in service, then mark the day when another purchase or distribution pickup becomes necessary.

SOURCE KEYS HKIT HSHELF HFOOD HLEFT

Give Purchases a Clear Priority

When shops are open with limited stock, send a short list ordered by what the household needs soonest. Put safe drinking water and essential special-diet items where they will be seen first. Give the person shopping an acceptable substitute, package size, and quantity. Record who can make a decision if no acceptable choice is available.

Use the space you can actually store and the weight you can carry. A larger purchase is useful when it can be kept in suitable conditions and used before it deteriorates. Smaller containers may simplify handling and reduce leftovers, especially when several people share a refrigerator or the building is difficult to reach.

Plan before you leave

Verify opening times, limits, and the accepted method of payment. Arrange one additional source if the first place is unavailable. On return, tell the household what is still missing and when it becomes urgent. Keep one shopper's list and one inventory so duplicate purchases do not consume the resources needed for water, food, or other immediate obligations.

SOURCE KEYS HKIT HSHELF HWSTORE HMARKET

Receive Supplies at a Known Place

Choose a stable, visible place where supplies can be set down and inspected. Keep the path to it clear. A table near the entrance can work if it stays clean and out of the way of travel. In a multiunit building, confirm the building's rules and use a spot that leaves shared exits available.

Check the item, packaging, and any required temperature as soon as the delivery arrives. Take cold items to working refrigeration or an adequately iced cooler promptly. Keep raw foods separate from ready-to-eat food and record any relevant time or temperature. Put safe drinking water where it can be reached without moving heavy boxes.

Leave a short record

Make a note of what arrived, from where, and what remains to obtain. If the item was delivered on behalf of another household, record who it is for and how to contact them. Hold questions about damaged packaging or exposure until you can verify the details. Separate questionable items physically and mark them so another person does not put them into the general supply.

SOURCE KEYS HFOOD HFDA HWSTORE HCANS

Rebuild the Reserve in Stages

After regular service resumes, list the supplies you used, those you discarded, and the functions you still need to restore. Start with drinking water and ready-to-use food. Restore simple hygiene and cleaning supplies next. Then replace larger quantities or equipment when the household can verify what will be useful.

Review the numbers from the outage. If you planned for a certain amount of water but used it faster than expected, identify the uses you missed in the calculation. If a freezer's loss created the largest problem, ask whether more shelf-stable meals would provide a more practical balance. Replacement is an opportunity to change how supplies are stored and used.

Take one useful measure

Pick something you can count again at a later date. Three days of usable meals, a dated water reserve, or a known number of unopened portions for a person with a special diet gives the plan a clear measure. Schedule another check before the next likely high-risk season. Write down a backup source for the item that was hardest to replace.

SOURCE KEYS HKIT HWSTORE HFOOD HSHELF

Hand the Supply Plan to Someone Else

Ask someone to manage a short supply exercise while you answer questions only when asked. Give them the current inventory, a scenario, and the contact or pickup information available to the household. Have them count meals, find a water source, and identify what they would do if the first source closed. Check that the plan allows for dietary needs, animals, and the people who can actually carry supplies.

Include one change during the exercise. A bag may be too heavy, a collection time may move, or one household member may eat elsewhere. Record the response in the inventory or the plan so another person can pick up from there. Let the person running the exercise suggest how to record the change.

Keep the handoff short enough to read

End by writing the next action, the person responsible, and the time it should occur. Keep the information about why a supply is restricted next to its label. Put the contact list where it can be found in low light. The plan is ready for another person when they can locate, verify, and use its main supplies without needing a detailed explanation.

SOURCE KEYS HKIT HOLDER HWSTORE HFOOD

Measure the Load

Begin with the job

A power plan starts with an outcome. Keeping a phone available for calls is an outcome. Keeping every device on a desk powered all day is a collection of habits. Put the outcome into one sentence before comparing batteries or generators.

For each outcome, name one device that can do the job and one alternative that uses less power or works without it. A flashlight can replace overhead lighting in a hallway. A printed address list can replace a computer lookup. A cooler may help preserve some refrigerated items during a planned transfer, with temperatures checked against food-safety guidance.

Make a separate row for anything whose interruption can harm someone. For a powered medical device, ask the supplier and care team what backup they approve and what to do before that reserve is spent. Work through that plan first.

> If you can describe the job and how long it must continue, you can estimate the load.

SOURCE KEYS P01 P02 P11

Put watts and watt-hours in separate columns

Watts describe how fast a device uses energy at a given moment. Watt-hours describe how much energy it uses over a period. A 12-watt lamp running for five hours consumes 60 watt-hours. Two such lamps running together draw 24 watts while both are on and consume 120 watt-hours over five hours.

The distinction matters at purchase time. A battery might hold enough energy to run a device all evening but have an outlet unable to supply the power the device needs. A generator might supply ample power for several large devices but run out of fuel before a long shift ends.

Write power and duration on the same row and multiply them for the energy estimate. Add the watt-hours for the day. Separately, add the watts of equipment expected to run at the same time. Include startup requirements from the manufacturer or a suitable measurement where relevant. These are two different sizing questions.

> Check a calculation with a second person. Ask whether the number tells them how much power is drawn now or how much energy is used over time.

SOURCE KEYS P01

Record what the nameplate actually says

Copy the make and model of the appliance and the ratings on its label. Photograph the label when it is safely accessible. A rating marked as maximum input is a useful planning ceiling. It may describe a different operating condition from the one you normally observe.

Keep input and output ratings distinct. A charger can have an AC input label and several possible DC outputs. Your source supplies the input. A printed input current multiplied by voltage gives a rough apparent-power figure, expressed in volt-amperes. For an AC device, that figure can differ from real power in watts.

Record the full wording and the units. Include the power supply or adapter in the record. Then check the manufacturer's documentation for normal consumption, peak demand and power-source limitations. Keep assumptions visibly marked until you have better data. This small habit helps when a substitute adapter appears nearly identical in a drawer.

> A useful label photo includes its whole face and the model number. Keep it alongside the measured values so the two are never confused.

SOURCE KEYS P01

Measure the appliance in ordinary use

A plug-in energy meter rated for the circuit and appliance can show how much energy a compatible cord-connected load uses. Follow the meter's instructions and limits. Leave hardwired and high-current equipment to a qualified electrician.

Give the measurement a beginning and an end. For a laptop, use a typical work session with the same display brightness and battery charge state you expect to see during an outage. For a refrigerator, observe a longer interval so repeated compressor cycles are represented. Include the room temperature and any unusual use, such as heavy door opening.

A low number observed on a quiet day can be misleading. Retest an important load under a different, realistic condition. Keep the highest representative result and the date beside the normal result. Measurement turns a household assumption into a record another person can check.

> If two readings disagree, look first for a difference in room conditions, device state or duration. Mark each reading with enough detail to repeat it.

SOURCE KEYS P01

Notice the loads that start in bursts

Some appliances need extra power when a motor or compressor starts. The steady reading taken several minutes later can miss that initial demand. The relevant question is whether the source can supply the required power for the needed duration when other devices are already running.

Start with manufacturer data for both the load and the source. A label advertising a surge capacity without stating its duration leaves an important uncertainty. A simple energy meter may miss a very short startup event. A qualified installer can measure or evaluate large and hardwired loads.

Record whether a tested combination starts successfully with other planned loads present. If a source trips, stop and consult its fault indications and the equipment instructions. Repeated resets can hide a mismatch. For everyday use, choose a sequence that prevents several large loads from trying to start together.

> Check that a model's brief output rating specifies a duration. A useful comparison matches the length of the demand as well as its magnitude.

SOURCE KEYS P01 P03

Estimate refrigerator use over a full day

A refrigerator cycles. It may draw hundreds of watts while running and little between cycles. Multiplying running watts by 24 hours can overstate energy demand, while measuring a brief pause can understate it. A representative daily watt-hour reading is a stronger starting point.

Write down how often doors were opened, whether the appliance started warm and the approximate room temperature. Conditions during an outage can be different from the measured day. Check the unit's startup requirements separately and reserve extra capacity where the evidence is thin.

Food temperature is the outcome that matters. An unopened refrigerator ordinarily stays cold for about four hours after power fails, according to FDA guidance. Use an appliance thermometer and the FDA food-safety instructions when deciding what to keep. A power plan and a food-safety plan overlap, so keep the temperature record with the outage log.

> Treat a refrigerator trial as a measurement of that appliance in those conditions. A neighbor's unit, even at a similar size, may behave differently.

SOURCE KEYS P01 P11

Separate equipment that supports medical care

List each powered medical device with its model, approved battery arrangement and the contact details of the supplier and care team. Ask for a written plan stating what changes when the supply is interrupted, how long the approved backup may last, and what action to take before it runs low.

Test only as the supplier and care team direct. A label saying that a power source provides the required voltage leaves other compatibility questions open. A device may need a particular adapter, waveform or operating setting. Keep approved replacement parts with the equipment and keep a paper copy of the plan nearby.

Ask the utility what its medical notification program offers and how it works in an area outage. Treat notification as one input to the plan. Set a clear time to call for help or move to a prearranged site while enough reserve and transport options remain.

> Keep the supplier's after-hours number and the contingency decision time in the paper copy. Review both when the care plan changes.

SOURCE KEYS P02

Use a realistic charging schedule

When several rechargeable devices run low at once, one source must serve all of them. Begin with the items that keep people reachable, such as a phone, a hearing device or an approved communication aid. Write down which port and cable each item uses.

A charging session can use more power than operating the same device with a full battery. Check the draw during the part of the session when the battery is low. Some multiport chargers share their rated capacity across connected devices. Try the combination you intend to use.

A simple sequence can reserve the first charging window for communication and the second for lights or optional devices. Note how much charging was completed within each window and who checked it. This is especially helpful when a generator is being used in limited sessions or a battery is awaiting its next solar recharge.

> Before ending a shared charging window, check each device's own display. The source may report activity even when a connected item has stopped charging.

SOURCE KEYS P01 P02

Count the quiet load

Power sources and connected devices can draw energy while the household is asleep. An enabled AC inverter, a network device, an idle computer or a charger waiting with no useful work may account for a surprising part of a day's use.

A small continuous load adds up. A steady 8-watt draw over 24 hours uses 192 watt-hours. Start with a short list of loads expected to remain active overnight. Determine which are genuinely serving a required function and which can be switched off at their normal controls.

Check the effect on a measured session rather than making all changes at once. A router may be needed for an offline local network or a communication service that remains usable. A light that keeps a passage accessible can be worth its modest draw. The aim is to make the overnight budget visible and purposeful.

> A circuit may serve several functions. Record what else stops when you turn off equipment during a trial, especially anything used by another person.

SOURCE KEYS P01

Include a long night in the budget

Daytime tests can hide the most difficult part of an outage. Sunlight is absent, people need safe paths through the home, and outdoor work is harder to supervise. Make an overnight budget separately from the daytime one.

List essential nighttime loads and the hours they must operate. Decide how to reach a flashlight without relying on wall lighting. Keep enough light available for the route to the bathroom, the exit and any care station. A cold or hot indoor environment may determine when a household needs a different location.

Before evening, check the source state and record what energy remains available under the conditions of the day. Set a decision time early enough to change plans before the last transport option or staffed facility closes. This timetable is often more useful than a theoretical maximum runtime.

> Place the working light where the person who needs it can reach it from bed, a chair or the path they actually use.

SOURCE KEYS P01 P02

Use a range when estimating runtime

Suppose testing indicates that a battery and its AC outlet deliver about 720 watt-hours under a representative load. A 60-watt device could run for about twelve hours by simple division. A 90-watt load reduces the estimate to eight hours. These are planning calculations for measured conditions.

A battery's advertised capacity and the energy delivered at an outlet can differ. The product may reserve some capacity and consume energy in conversion. Temperature, age and the load profile also influence results. Keep the assumptions alongside the calculation.

Use the less favorable credible number when setting a time to reassess. After a trial, record when the source was placed in service, what it supplied and what remained at the end. If the battery indicator is the only number available, treat it as an estimate and give the plan room for error.

> Write the unit beside each number. Dividing watt-hours by watts gives hours. A decimal part of an hour is still part of the estimate.

SOURCE KEYS P01 P03

Pick a reserve before the lights go out

A reserve is energy committed to something you want to protect. It might be enough to keep a phone available during a trip, complete a safe transfer of refrigerated medicine as arranged with a pharmacist, or operate required lighting while people leave.

Set the reserve while you are calm. Name what it is for, who can authorize its use and how the household will recognize the threshold. A percentage shown on the source may be useful after you have tested it. A time-based threshold works better if the display is unreliable.

Write the response beside the threshold. At that point, the household might stop optional work, move to a prearranged location, or contact someone who can assist. Make sure that the response can be carried out before the reserve is exhausted.

> If your reserve is meant to cover transport, account for the interval from the decision to leave through arrival at the agreed destination.

SOURCE KEYS P01 P02

Give each high-demand device a time slot

A household often needs a large appliance for minutes rather than continuously. Separating high-demand uses in time can reduce overlap and give each device a better chance of starting. It can also make the fuel or battery record easier to interpret.

Use a simple card listing the time, activity and expected draw. An example might place computer charging before a short appliance session and leave an uninterrupted window for essential loads. The sequence must respect the appliance and source manufacturers' requirements.

Tell everyone which combinations have been tested. When the plan changes, recheck both the simultaneous load and the energy available for the rest of the day. Avoid treating a successful one-time start as evidence that the same combination is suitable in every season or under every battery condition.

> Use a clock or a simple timer during a drill. Planned ten-minute jobs often include preparation and cleanup that have their own timing.

SOURCE KEYS P01 P03

Keep a no-power substitute nearby

For each routine that normally depends on electricity, choose a workable substitute ahead of time. A paper map can serve a route when a screen is unhelpful. A reflective sign can mark a path that would otherwise require continuous lighting. Printed instructions can keep a short computer session focused on genuinely digital tasks.

Try the substitute with the person who will use it. For example, a small printout may be unreadable in dim light. A flashlight can be difficult to operate one-handed. Keep supplies where they can be reached and mark their locations in plain language.

Where a task affects health or safety, ask the appropriate professional what fallback is suitable. The best substitute is one a household can use competently and repeat under stress.

> Keep the backup map or instructions in the room where the task occurs. Their storage location is part of whether the substitute is usable.

SOURCE KEYS P02

Compare energy demand across seasons

The same home can have a different power problem in different months. In warm weather, refrigeration and safe indoor temperatures can take priority. In cold weather, the important questions may involve heat, access, and protecting people who cannot easily travel. A system tested only in a mild season leaves a gap.

Make separate warm-weather and cold-weather lists. Add the devices and hours that change. Record how an outage could also interrupt transport or access to a place with working heat or cooling. Determine who would make the decision to move and what would trigger it.

Use local emergency guidance when conditions become dangerous. The value of a seasonal worksheet is the decision it supports before conditions deteriorate. Keep the last trial date beside each seasonal version so you can tell which assumptions were exercised.

> An older worksheet can still teach you something. Compare it with the current season's version to see what the plan has gained or lost.

SOURCE KEYS P01 P02

Calculate a laptop work session

Imagine a laptop that averages 32 watts at its AC adapter during a two-hour offline document session. That session uses 64 watt-hours. An external display drawing 22 watts during the same interval adds 44 watt-hours, bringing the total to 108.

Use your own readings for planning. A local AI task can have a different draw from reading a PDF. Brightness, battery charging and connected accessories can also change the result. Make one session with a real workload and measure it from start to finish.

Save the answer or exported notes before stopping the session. Prepare questions and identify the documents on paper so active computer time is spent on the work. A short, scheduled session can make offline computing easy to accommodate alongside lights, communications and other loads.

> Measure active work separately from charging. Leaving the laptop connected afterward can turn one session into two different loads in the same total.

SOURCE KEYS P01

Give the measurement a clear owner

Assign one person to maintain the power worksheet and name a backup. A household can lose track of an important measurement when several people keep separate notes on phones or in different notebooks. One dated record makes it possible to explain what was known when the plan was chosen.

For each entry, note the device, source, measurement period, energy consumed and conditions. Record whether a value came from a label, a calculation or a test. When a better value becomes available, preserve the previous one long enough to understand the difference.

Choose a visible place for the working copy. During an outage, use a paper sheet if it is easier to share. Put a new date on the list after a battery, appliance, charger or important accessory changes.

> Ask a second reader to explain a questionable entry. If its meaning depends on the author, revise the label before the worksheet is used again.

SOURCE KEYS P01

Test a familiar sequence on an ordinary day

Choose a planned one-hour session before severe weather arrives. Use a healthy source and a small set of suitable loads. Keep ordinary utility power available for anything that cannot safely be interrupted. Observe how much preparation time the session takes and whether the connectors and controls are easy to identify.

Track four things. Record the source at the start, the devices it actually served, any interruptions and the source at the end. Compare the result with the budget. If a key item was left out, update the worksheet instead of assuming the missing load fits.

Ask another member of the household to read the instructions and repeat the preparation steps with you present. Confusing labels, difficult locations and unavailable cables are findings. Fix those issues while there is time.

> Allow the planned operator to find the ordinary controls and records independently during the rehearsal. Observe where they pause or ask a question.

SOURCE KEYS P01 P02

Make a one-page daily energy sheet

Use a single page with columns for the job, the device, watts, hours, estimated watt-hours, and the time it must run. Add one line for reserve and another for the last reading. Separate continuous, scheduled and occasional loads so a reader can see what changes when available power falls.

The calculation need only be as precise as the input data. Record the estimated daily total and the likely largest simultaneous draw. Add a note identifying any device with a substantial startup demand or a compatibility question still open.

End the sheet with two decision times. The first is when you will check the source again. The second is when you will carry out the alternate plan if it is needed. Date the sheet and keep a blank copy next to the filled example.

> Leave enough room to mark actual readings next to estimates. A daily sheet should support adjustment without requiring a new calculation from scratch.

SOURCE KEYS P01 P02

Store and Replenish

Start with the capacity you can use

Read the energy rating of a portable battery in watt-hours, then check its published output specifications. A rating printed on the enclosure describes stored energy under specified conditions. The usable energy at a particular outlet depends on the system, operating conditions and the load.

Run a practical trial with the kind of load you expect to use. Record the start and end states, energy delivered if the source can report it, and any automatic shutoff. The display is useful for comparison when the test is repeated with the same equipment and method.

For a fixed storage system, ask the installer which portion of capacity is reserved and what setting changes during a utility outage. Keep the installed settings in the household reference packet. A good record lets a reader distinguish a change in capacity from a change in usage.

> If the manufacturer reports usable energy, record the conditions under which it was measured before comparing that figure with a household trial.

SOURCE KEYS P01 P03 P04

Match the output port to the equipment

A portable station can offer several kinds of output, each with its own limits. Check that the device's approved input matches the source. The voltage, connector, power rating and any negotiated charging standard all matter. Two sockets that accept similar plugs can serve different purposes.

Use the manufacturer's supplied or approved adapters and cables. A USB-C connector alone does not identify the power the port can deliver. Read the device and source specifications before relying on a charging combination. Try the approved configuration while there is still time to obtain the correct part.

Label a small set of confirmed combinations. Include the source, port, cable and device. Keep these items together where people can find them in low light. Avoid creating a collection of anonymous adapters that must be identified during the outage.

> Keep adapters with their matched equipment. A cable that looks right still needs the rating and approval for the combination you plan to use.

SOURCE KEYS P01 P09

Compare direct charging with the AC adapter

A device can sometimes be charged from a compatible direct-output port on a power station. Another possibility is the device's ordinary AC adapter using the station's inverter. Both paths consume some energy in conversion, and their performance depends on the equipment.

Compare the two paths only if both are permitted by the manufacturers. Start with a similar state of charge and comparable operating settings, then record how much energy the source used. Include any time spent charging after the device reaches its useful state. The simpler path may also reduce the number of accessories you need.

Record the result in a way that can be repeated. If a computer requires its AC adapter for a specific workload, preserve that detail. An outage is a poor time to discover that the cable selected for convenience cannot keep up with ordinary use.

> A useful comparison includes whether the device keeps operating during charging. Test under the kind of work the household actually expects to do.

SOURCE KEYS P01 P09

Plan for inverter idle consumption

An AC inverter may use some energy when its output is enabled even with little or no load attached. Consult the product information for idle consumption and for any automatic power-saving or shutoff settings.

A low-watt load can make the overhead important. Try a planned session with a representative load and note whether the source remains active as intended. A device drawing intermittently can interact differently with automatic shutoff than a constant load does. Consult the manufacturers for any load serving a safety or care function.

Make the desired behavior part of the operating card. Record which output is used, whether the output should stay on between sessions, and who checks it afterward. This simple addition prevents the household from consuming stored energy overnight through a setting that no one remembers enabling.

> When the manual permits, check whether turning the output off between sessions produces a measurable benefit. Record any problem restarting the connected device.

SOURCE KEYS P01 P03

Know what rooftop solar can power in an outage

Many rooftop solar systems are installed to work in parallel with the utility. Outage power requires equipment and controls designed to isolate the supported system from the grid and operate in that mode. A sunny roof alone is insufficient evidence that the outlets will remain available.

Ask the installer for the outage configuration in writing. Which outlets or circuits are supported? How does the system isolate? What can start when the storage is low? Can the panels recharge the battery while the grid remains down? Record the specific answers for the installed system.

Have the installer demonstrate the intended controls and indicators. Ask what can be tested safely and what should be left to a technician. A plain-language operating card should match the installed hardware and explain how to recognize when it is supplying backup power.

> Write the names of backed-up circuits as they appear on the approved labeling. A generic list of rooms can miss outlets on other circuits.

SOURCE KEYS P03 P04

Put solar harvest on its own ledger

Solar generation has a daily pattern. A panel's rated output is a standardized figure. Daily energy depends on available sunlight, orientation, shade, weather and the equipment collecting the power. Record measured energy over a meaningful interval when the product provides it.

Make separate entries for energy used and energy replenished. If the household uses 450 watt-hours in a day and the charging system supplies 280 watt-hours to storage, the gap is 170 watt-hours before any further changes in assumptions. Two similar days create a larger gap.

Use a conservative daily estimate for planning and a fresh reading when conditions change. Check how much energy a poor solar day adds to the backup requirement. If that answer changes the decision to stay, move or reduce usage, place it on the daily operating sheet.

> When the source reports energy collected, check whether the reading refers to the panels, the charger input or energy actually put into storage.

SOURCE KEYS P01 P03 P05

Treat published solar estimates as a starting point

A production estimate can help compare candidate sites or seasons. PVWatts estimates grid-connected photovoltaic production using a model and historical weather data. It provides a starting point for thinking about solar resource and variation.

A portable setup under shade or an outage-specific system may behave differently from that model. Use actual measurements for the configuration you intend to rely on. Look at likely low production periods as well as the annual total. A strong summer average tells little about a string of overcast winter days.

Keep the modeled estimate with its assumptions, date and location. Write a separate note for any observed condition that differs. A useful comparison records what was measured, what was estimated, and which conclusion can be used when the household has to make a decision.

> Save an estimate as a dated PDF or paper sheet. Record the assumptions so it remains interpretable when internet access is unavailable.

SOURCE KEYS P04 P05

Look for shade at more than one hour

A site that appears open at noon can be shaded in the morning or late afternoon. Trees, rooflines, vehicles and temporary storm debris can reduce the sun reaching a panel. For a portable setup, observe the site at several useful hours before making it your usual spot.

Work only from a safe and accessible position. Leave roof work and repairs to qualified installers. If the manufacturer permits a ground arrangement, use the specified stand, cable and setup instructions. Arrange the cable to avoid a route people have to cross.

Record the season and the typical shading pattern. Repeat the observation after the leaves return, nearby landscaping changes or a storm alters the site. A source checklist with a short space for sunlight and shade can explain why two days of charging produce different results.

> If the usual charging location changes after a storm, reassess the site and cable route before carrying the equipment outdoors again.

SOURCE KEYS P04 P05

Know the input limits before connecting panels

A charge input has electrical and connector limits. Read the permitted voltage, current and power range in the documentation for the exact unit. Use panels and combinations the manufacturer approves. Ask the manufacturer or a qualified installer if the documentation leaves the combination uncertain.

A similar-looking connector can hide differences in polarity or rating. Keep approved cables labeled and avoid improvising adapters. Never open fixed electrical equipment or try to modify a protection circuit during an outage. If a panel cable or plug is damaged, remove it from service according to the manufacturer's instructions.

Keep the approved panel and cable pairing on the setup card. A record showing what was successfully used is valuable, especially when several panels or power stations share a storage area. Include a date and a simple diagram showing the named components.

> Keep the approved pairing near the hardware. An equipment photograph can show labels and cables without becoming a substitute for the manufacturer's instructions.

SOURCE KEYS P03 P04 P09

Plan charging around the weather

Rain, snow and extreme temperatures affect both the available energy and the conditions in which equipment can be used. Follow the specified operating and charging limits for each item. Check whether the battery enclosure, charger and cable connectors have different limits.

Keep portable equipment dry where the instructions require it and use it only in a suitable location. Avoid creating a shelter that traps heat or obstructs ventilation. If outdoor conditions are unsuitable, switch to the alternate charging arrangement or postpone the session.

Make a weather decision before placing equipment outside. Identify where the unit can be retrieved from a safe position if conditions deteriorate. Record who is responsible for checking it and when. During dangerous weather, keeping people out of harm's way takes precedence over a charging opportunity.

> A decision card can identify the earliest point to bring portable equipment in safely. Build that interval into the planned work.

SOURCE KEYS P02 P04 P09

Use the manufacturer's temperature limits

A battery's acceptable temperature range for storage can differ from its range for charging or use. Find the limits for the actual model and write them on the equipment card. Store the card with the unit or with the household energy records.

Think about where the battery will spend time. A parked car, sunny window or unheated outbuilding may have a different temperature from the house. During a power outage, normal indoor temperature control can also be unavailable. A location that worked last season may need reconsideration.

If the product signals a temperature fault or has been outside its approved conditions, follow the manufacturer's instructions before reconnecting or attempting to charge it. Avoid improvised heating or cooling arrangements. Write a separate backup for the charging window if the intended battery cannot be used in the prevailing conditions.

> Record the manufacturer's limits alongside the exact model. Applying one battery's storage or charging limits to another can lead to a bad decision.

SOURCE KEYS P03 P09

Recognize when a battery should leave service

Lithium-ion battery products require attention if they show unusual heat, swelling, leakage, an unusual odor, or other signs described by their manufacturer. Stop using a suspect device when it is safe to do so. A smoking or burning battery is an emergency. Move away, keep others clear and call 911 from a safe location.

Make a distinction between an item that can be handled as ordinary equipment and a damaged item requiring advice. Consult the manufacturer or local hazardous-waste authority for handling and disposal instructions. Avoid charging, opening, or placing a suspect unit with ordinary stored batteries.

Keep the recall and model record available. It helps you describe the product precisely and find the applicable remedy. After any dangerous event, return to service only when the manufacturer or other appropriate authority confirms what is safe to use.

> Tell the waste service if a unit is damaged or was exposed to fire or water. A program may handle those cases differently.

SOURCE KEYS P09 P10 P12

Set aside a place for routine charging

Choose a stable, accessible area that meets the manufacturer's instructions. Keep charging equipment away from flammable materials and from exits. Use the approved charger and cable. Arrange the area so a cord cannot be tripped over or crushed.

Put a label beside the station naming the devices normally charged there. Keep the equipment in view during use as recommended by fire-safety guidance. A routine that depends on someone noticing a problem should place the person where that notice is possible.

Decide who disconnects equipment and checks the area at the end of the session. A small household can use a short sign-off in a notebook. In a shared setting, one person should own the check so everyone knows whether the station is still operating.

> Check the area after a device is added or moved. A cord route that was clear with one charger can change with several in use.

SOURCE KEYS P09

Check recalls by model and serial information

A product name alone may be shared by several versions. Record the model and serial information printed on the device and compare it with the details in a recall notice. Check the manufacturer's notices and the U.S. Consumer Product Safety Commission database while internet access is available.

If a notice applies, follow its directions for stopping use, obtaining a repair or replacement, and disposal. A local waste service may require special handling for a battery or a fuel-containing product. Do not assume that a visually similar replacement part is part of the remedy.

Place a date on the recall check in the household record. Add the date when the remedy was completed, if applicable. This small administrative step can prevent a removed unit from being brought back into use by someone who never saw the notice.

> For loaned equipment, give the person borrowing it the current condition and recall status. Record any restrictions that affect their intended use.

SOURCE KEYS P09 P10 P12

Decide how much energy to carry between rooms

Portable batteries make it possible to move energy to a useful place. The equipment still needs a suitable operating surface, ventilation and a route free of trip hazards. Work within the handling and environmental limits published by the manufacturer.

List the rooms or destinations where the equipment is likely to serve a purpose. A lamp, phone or other small device may be easier to move than the source. A heavier unit can be better left at a location that stays clear of exits and can be watched during use.

Make a carry decision while conditions are ordinary. Check that the intended person can safely manage the weight and controls. If the answer changes at night or when a person is injured or fatigued, plan a different arrangement. Convenience during setup should leave the exit route usable.

> A usable setup includes a clear route back out of the room. Put the source where someone can reach its normal controls from safety.

SOURCE KEYS P02 P09

Turn a cloudy period into a calculation

Consider an illustrative daily budget of 600 watt-hours and three cloudy days that deliver 150 watt-hours each. The shortfall is 450 watt-hours per day, or 1,350 over the period. This simple comparison helps you decide whether to reduce consumption or arrange another charging source.

Use your measured values for actual decisions. The forecast may change and an alternate charger may be unavailable. Compare the remaining energy with the time needed to carry out a fallback. Prioritize functions with a clear health or communication purpose.

Write a decision rule as a measurable condition. A household might reassess at a stated time each afternoon and choose the next day's loads before darkness. The benefit is a predictable moment to change course before uncertainty and fatigue turn every load into a negotiation.

> Make a second example for a day when consumption is reduced. The amount saved is useful evidence when deciding which activities to postpone.

SOURCE KEYS P01 P03 P05

Keep retired batteries out of ordinary trash

Used lithium-ion batteries require separate handling. EPA advises taking them to appropriate recycling or household hazardous-waste collection rather than putting them into household trash or ordinary recycling. Check the local program for what it accepts and how items should be prepared.

For intact batteries, EPA describes insulating terminals or separating batteries in individual bags to reduce the chance of a short circuit. Follow local instructions and seek separate advice for damaged batteries. A product with a built-in battery may need to be taken in as a complete item.

Maintain a small retirement record so a removed item is no longer counted as working reserve. Keep it away from active equipment while waiting for proper handling. Replacing a battery in the budget and removing the old one from circulation are distinct tasks.

> Use the official collection program's directions for built-in batteries. Avoid dismantling a product solely to prepare it for drop-off.

SOURCE KEYS P09 P10

Prepare for the first fixed-system service visit

Gather the installed model numbers, date of installation, approved operating card and any observed warning messages before contacting the installer. Photograph displays or labels from a safe position if useful. Write down what the system was doing when the fault appeared.

Ask the installer to document the cause, the corrected settings and a safe way to confirm ordinary operation. If the installation includes an outage mode, ask whether the visit changes the behavior of backed-up circuits or the way the system reconnects to utility power.

After service, compare the equipment list and operating card with the updated configuration. Replace outdated instructions in the household reference copy and preserve the service report. A dated description of the system that actually exists is far more useful than a generic brochure.

> Ask for a description of what the service technician changed. This detail matters if the same alert returns after another outage.

SOURCE KEYS P03 P04

Run a replenishment drill

Use an ordinary day to measure one complete cycle of consumption and recharge. Start with a clearly recorded condition. Run the loads in the planned sequence, then restore energy using the intended charging method under suitable conditions. Record the energy delivered and the time it took.

Check the results against the plan. Identify any gap caused by a slow charger, missing cable, unsuitable location or higher-than-expected load. Write down who noticed the issue and what would happen if the same problem occurred during an outage.

Repeat the drill after the equipment or routine changes. A short trial provides enough evidence to improve a plan without waiting for a full discharge. Keep one dated record that another person could use to repeat the test.

> Ask the observer to note both equipment behavior and the human steps. A delay finding the proper cable belongs in the drill record.

SOURCE KEYS P01 P03 P09

Generate Safely

Choose the generator site before an outage

Operate a portable generator outdoors, at least 20 feet from the house and from doors, windows, and vents. Aim the exhaust away from buildings. Think about nearby homes and occupied structures as well as the building you want to serve. A garage, carport or similar partially enclosed place can allow dangerous carbon monoxide buildup.

Check the site in daylight. Look at the openings a person might leave ajar, such as a basement window or a vent near the ground. Check the exhaust direction and the route people would take around the unit. Keep children and others who are unfamiliar with the equipment away from the operating area.

If the property has no suitable site, plan to meet the most important needs with another source or at another location. A map of the property showing the intended operating position can prevent rushed placement in bad weather.

> Recheck the site after moving furniture outside, changing landscaping or adding a nearby structure. The old location diagram may need revision.

SOURCE KEYS P06 P07 P16 P17

Keep exhaust away from occupied spaces

Carbon monoxide from engine exhaust cannot be detected by smell. Moving a generator outside is the beginning of safe placement. The outdoor distance, direction of exhaust and nearby openings still matter. The same checks apply if a generator is borrowed or used at a different site.

Consider how a building breathes. Air can enter at an open window, vent or door even when that opening is on a level different from the source. Outdoor wind can change during an operating session. If the site fails the published separation and ventilation guidance, choose a different plan.

A CO shutoff feature is an additional protection. Keep working carbon monoxide alarms in the home and use the placement required by safety authorities and the alarm instructions. A generator plan relies first on preventing exhaust from reaching people.

> A helpful site diagram includes the occupied buildings and their openings. Use it as a reminder to reassess conditions each time.

SOURCE KEYS P06 P07 P15 P16

Make alarm checks a routine task

Install carbon monoxide alarms according to their instructions and applicable local requirements. CPSC recommends alarms on each level and outside sleeping areas. Use battery-powered or battery-backup alarms as appropriate and maintain them on the manufacturer's schedule.

Record the installation date and replacement date for each unit. Check the alarms before storm season and after changes to the household's sleeping arrangement. Keep appropriate replacement batteries where they can be found easily. If someone cannot hear a standard alarm, arrange an alerting device that meets their needs.

Assign one person to conduct the routine and another to check the record periodically. During an outage, everyone should know what the alarm sounds like and how to leave the building. The purpose of a check is to establish that a warning can reach the people it is meant to protect.

> Try the alarm's test control as its instructions direct. A successful test is one part of maintaining the warning system over time.

SOURCE KEYS P06 P15 P16

Treat a CO alarm as an emergency

If a carbon monoxide alarm sounds, get people outside to fresh air immediately and call 911 from a safe location. Follow emergency responders' instructions. Do not reenter until responders determine that it is safe. Tell them about any generator, heater or other combustion equipment in use.

Headache, dizziness, weakness, nausea and confusion are among the possible symptoms of carbon monoxide poisoning. Take a suspected exposure seriously, especially when several people feel unwell around the same time. A person who is asleep may be overcome without recognizing symptoms.

Rehearse the exit plan with the household before a generator is needed. Name the place where people will meet after getting out. A drill should be brief and should avoid operating any combustion device for demonstration. The sequence is to leave promptly, make the call from safety and wait for instruction.

> Keep the meeting place familiar to visitors or a caregiver. People who can get out quickly still need a way to account for others.

SOURCE KEYS P15 P16

Keep portable equipment dry in use

Portable generators create a shock risk in wet conditions. Follow CPSC and manufacturer guidance to keep the equipment dry and to avoid operating it in rain or wet conditions. Do not touch the equipment with wet hands or while standing in water.

If the instructions permit an open canopy or other specified protection, it must preserve the required outdoor separation and ventilation. A tent, shed or closed shelter can trap exhaust. An enclosure improvised to keep a machine dry can create a worse hazard.

Decide how the household will respond when the safe operating site is unavailable. A smaller set of battery-powered loads can cover a useful interval. Another option may be to move before weather makes transport more difficult. Record the weather condition that calls for stopping a session.

> If the dry operating conditions cannot be maintained, make the decision early. An alternate plan is easier to start before the equipment becomes exposed.

SOURCE KEYS P06 P07 P17

Inspect cords before carrying a load

Use an outdoor-rated, grounded extension cord of a capacity adequate for the connected equipment and permitted by the generator and appliance manufacturers. Inspect the plug and cord jacket for damage before use. Remove a damaged cord from service.

Plan the cord route before placing equipment. Keep cords out of standing water and away from pinch points, wheels and sharp edges. Avoid routes that obstruct a doorway or create a trip hazard. Preserve the generator's outdoor separation while choosing the route.

Keep a clearly labeled set of cords reserved for the tested configuration. The labels should identify the intended source and load. An item that has been borrowed or replaced should be checked again before use. If the equipment instructions leave uncertainty about a connection, ask an electrician or use a different suitable load.

> A cord inspection also checks the route after setup. A dry and undamaged cord can become a hazard if a door closes on it.

SOURCE KEYS P07 P14 P17

Understand the fuel arrangements

Use only the fuel and fuel system specified by the generator manufacturer. Store fuel in approved, labeled containers outside living areas and away from ignition sources, in accordance with local requirements. Keep containers closed and protected as their instructions require.

Separate the decisions about quantity, storage and transport. A household may have a safe location for a small amount of fuel while a larger stock would violate local rules or exceed what can be moved safely. Ask the local fire authority if the limits or storage requirements are unclear.

Make a list of nearby suppliers during normal conditions. Record which fuel each equipment model uses. Keep the planned session length and a fuel reserve decision together. A supply that cannot be replenished safely changes what the household can promise to run.

> An estimate of fuel use is useful only with the planned loads and operating pattern. Record how the result was obtained.

SOURCE KEYS P07 P17

Stop and cool the unit before refueling

CPSC advises shutting down a portable generator and allowing it to cool before refueling. Fuel spilled onto hot engine parts can ignite. Use the approved container and follow the manufacturer's refueling instructions outdoors.

Plan a pause before a long operating shift runs into the expected refueling interval. Keep essential loads on a suitable independent source or use the alternate plan during that period. The time needed for a safe pause belongs in the daily schedule.

Assign the refueling job to someone who knows the equipment and has access to the instructions. Avoid moving fuel around by improvised lighting or when the safe working area cannot be maintained. If fuel has spilled or there is an odor from a suspected leak, move away and follow the manufacturer's safety directions or contact emergency services as conditions warrant.

> Use the interruption to check the remaining household needs. A well-timed pause gives people an opportunity to bring alternate equipment into service.

SOURCE KEYS P07 P17

Keep a portable generator out of wall outlets

CPSC warns against supplying a home through an ordinary wall outlet from a portable generator. This can energize wiring and utility equipment in an unintended direction. It can expose occupants, neighbors or workers to shock, electrocution and fire. A cord with exposed male plugs at both ends adds a direct contact hazard.

For approved cord-connected use, follow the source and load manufacturers' instructions. A professionally installed transfer system is the route to discuss when supplying building wiring. An electrician and the utility can explain local requirements for the intended equipment.

Keep the permitted connection method on the operating card. Every person who might operate the equipment should recognize which sockets are ordinary outlets and which connection, if any, is a professionally installed generator inlet.

> If an unfamiliar cord is presented as a workaround, set it aside and compare the proposed connection with the approved equipment card.

SOURCE KEYS P07 P08 P14 P17 P18

Have a professional plan the building connection

If backup power is to supply fixed wiring, ask a qualified electrician to evaluate the loads, source and service. The installation must address isolation from the utility and comply with the applicable codes, permits and utility requirements.

Provide the electrician with a list of desired circuits and the source manufacturer's specifications. Ask which circuits can run together, how startup demand is handled, and how the household can recognize the normal and backup states. Confirm who approves the installation and who will inspect it.

Request an operating card for the installed equipment. It should identify normal controls, alarms and stop conditions in plain language. Keep the inspection and service record with it. A demonstration by the installer can clarify the operation while the person who designed the connection is present.

> If an electrician proposes changes to the supported loads, ask for the revised list in writing and keep it with the inspection record.

SOURCE KEYS P03 P08 P17 P18

Let the equipment determine grounding and protection

Grounding, bonding and ground-fault protection depend on the equipment and how it is used. A portable generator serving its own approved receptacles presents different questions from a source connected to fixed wiring. The generator instructions and the electrician's evaluation govern the installed arrangement.

Ask the electrician or manufacturer to identify the permitted configuration and any required protective devices. Include the exact model in the request. An online diagram for a different generator can miss a consequential detail. Avoid bypassing breakers, ground-fault devices or other protection to keep a load running.

Record who determined the configuration and what was tested. If a connection or protection device behaves unexpectedly, stop using the affected arrangement and seek advice. A reliable plan includes a response for the time when the preferred connection is unavailable.

> A second operator needs to recognize a fault indication and know whom to call. They do not need to reproduce a technical evaluation.

SOURCE KEYS P08 P17 P18

Use a stable sequence for approved loads

Write the operating order from the manufacturer's instructions and the installed equipment card. Identify what is disconnected or switched off before start, which indications show that operation is normal, and when each approved load may be added. Different equipment can require different sequences.

Have another adult read through the card while observing a supervised test. Ask them to identify the point where a high-demand device is introduced and how they would recognize an overload or alarm. A mistake made during a calm rehearsal shows where wording or labeling needs improvement.

Place a brief stop rule next to the sequence. A fault, unsafe location, unusual sound or damaged cord should lead to a pause and evaluation rather than an improvised change. Keep the device instructions nearby for the person who needs the exact warning meanings.

> Try the planned sequence under suitable conditions with all equipment identified. Note the point at which the operator should reassess the next load.

SOURCE KEYS P07 P17

Schedule useful operating windows

A planned operating window can support several important jobs without making the generator the default source for every appliance. Use the load worksheet to choose activities with similar timing requirements. A session might charge phones, restore a tested battery and support a limited cooling task if the equipment can handle the load together.

Keep time for setup, checking and shutdown around the operating window. Decide who watches the equipment and who records the jobs completed. A second person should know when the session will end so a dependent task can be moved to its alternate source.

Write the next decision time on the fuel and energy sheet. Check whether the work achieved its purpose. A window that uses fuel and fails to preserve required temperatures or charging capacity should be redesigned.

> A useful schedule shows who is waiting for each charging session. That lets you notify the affected person if the operating window changes.

SOURCE KEYS P01 P02 P07 P11

Take neighbors and shared space into account

A generator's outdoor exhaust and operating area can affect people on nearby properties. Inspect the planned position relative to neighboring doors, windows and vents. Follow the published separation and manufacturer instructions. If the layout prevents a safe placement, use a different source or location.

In a multifamily setting, ask the property owner or manager about permitted equipment and operating rules before an outage. Shared walkways and exits must remain usable. Plan communication with neighbors without relying on anyone granting access to a private area during an emergency.

If a generator is being used at a shared site, name the authorized operator and the person who controls fuel and cord access. Put a short notice at the safe approach point. The notice should explain whom to contact and what areas must remain clear.

> Keep emergency access paths available for anyone who may need them. Do not assume an operating arrangement that suits one household suits the whole property.

SOURCE KEYS P06 P07 P16 P17

Set a point to stop operating

A generator session can end because the planned work is complete, a fuel reserve has been reached, the weather has changed or something appears unsafe. Make these decision points explicit. The operator should know which loads can move to a battery and which depend on moving to another location.

Put a clock time and the minimum remaining fuel for the next planned session on the log. Do not rely on a vague promise to stop when the fuel is low. If equipment produces an alarm or a fault, follow the manufacturer's instructions and keep people clear of any electrical or exhaust hazard.

After shutdown, confirm which household functions are still covered. Notify anyone whose task changes. A well-planned stop leaves time for the household to use its fallback rather than discovering the need after the reserve has gone.

> Put the stop time on the same page as the load schedule. People can plan around a visible end point before plugging in equipment.

SOURCE KEYS P02 P07 P17

Rehearse a change in operators

Make sure another responsible person can identify the approved site, locate the operating card and recognize the reasons to stop. A change of operator during an outage should be a handover, with a clear indication of whether the source is off, running or due for a pause.

Pass on the fuel state, the loads connected and any faults or changes in weather. Check that the new operator understands which controls and connections they are authorized to use. Leave wiring and technical repairs to the appropriate service professional.

A practice handover can be done on paper or during an ordinary supervised test under suitable conditions. Give the second person a realistic scenario, such as an interrupted charging session. Correct any unclear instruction and revise the card before putting it back in storage.

> Leave a short record of the handover and next check. This makes it possible to reconstruct the sequence after a confusing shift.

SOURCE KEYS P07 P17

Distinguish portable and installed systems

A permanently installed standby system has equipment and procedures specific to its installation. A portable generator used outdoors with approved cord-connected devices is a different setup. Treat each installed backup source as a distinct entry with its own operating limits and service contact.

For an installed system, ask the contractor to explain the normal transfer and return behavior and whether any customer action is expected. Record who handles alarms and when to call the utility or service technician. Discuss how the source behaves if a second energy system is also present.

Do not substitute operating instructions from a portable unit for those of a fixed system. Keep the exact equipment card near the controls and a copy with the household plan. A service visit should include a review of any settings that affect backup operation.

> If several backup systems are present, keep each set of instructions identifiable. A copy filed under a shared label can be difficult to interpret quickly.

SOURCE KEYS P03 P04 P08 P17

Return to utility service according to the plan

Utility service can return in stages. A nearby light may come on before your own circuit is stable. Follow the utility's directions and the operating card for the installed source. Keep an ordinary portable generator electrically separate from building wiring unless the approved transfer equipment and instructions provide for that use.

Plan how to restore large loads without trying to bring everything back at once. Check refrigerators, clocks, alarms and other devices that may have reset. Use the food-safety record and temperature evidence for decisions about perishables.

Record the time power returned and any interruptions that followed. If equipment, outlets or wiring were exposed to floodwater, keep affected items out of service until assessed as appropriate. When an unusual condition persists, ask the utility or a qualified electrician to evaluate it.

> Record any return-to-service problems as observations. A second outage soon after restoration can call for renewed checks rather than a new experiment.

SOURCE KEYS P02 P11 P17 P18

Keep well clear of downed wires

A fallen line or a nearby object touching it can be energized. Stay away and keep others clear. Contact the utility or emergency services from a safe location. Do not touch, move or attempt to clear a line. CDC also cautions against driving through standing water where downed power lines are present.

Look for changes in the intended generator, parking and access routes after a storm. A site that was suitable yesterday may be unreachable today. Set aside any plan that requires walking through damaged electrical areas or moving storm debris near a line.

Write down the reported location using a safe observation point, if you can do so without approaching. Give responders a clear description of the concern. An outage can continue while lines or equipment remain dangerous, so use official information before assuming an area is safe to enter.

> Choose a reporting description that does not require anyone to go closer. A street name and visible landmark may be enough.

SOURCE KEYS P13 P18

Keep the System Serviceable

Give every backup component a name

Assign a short identifier to each backup source, approved accessory and essential load. Put the identifier on a card or label where it will remain legible without covering warnings, ratings or vents. Record the manufacturer's model and serial details separately.

Use the same identifier throughout the operating instructions, storage map and service log. A note that says to find the correct cable is hard to use if several cables are stored together. An identifier ties the note to a specific part that has already been checked.

Make a small index showing what is stored at each location and who has access. Update it when equipment is loaned, replaced or sent for repair. Equipment can be present and still be difficult to use if its accessories or instructions have disappeared.

> If identification is needed in dim light, make sure a label can be read without moving the unit or reaching near a hot surface.

SOURCE KEYS P07 P09 P12

Build a short equipment history

Begin the history with the date the unit entered service, its configuration and the first successful test. Add service visits, recalls, faults and component changes. Keep receipts and service reports in a separate file while preserving a brief chronological list with the operating records.

Use the same fields each time. Record the date, operating conditions, symptom and outcome. If a technician changes a setting or replaces a part, ask them to identify it in writing. A clear history makes it easier to recognize a recurring fault or explain what changed.

Maintain a paper summary for equipment that matters during an outage. The detailed documents may be easier to store digitally. The paper summary should identify where to find them and include enough information to support a call for service.

> An accurate history preserves facts that seemed unimportant at the time. Write down the changed conditions while another person can still confirm them.

SOURCE KEYS P04 P09 P12

Keep compatible spares together

Decide which accessories are both easy to lose and necessary for the planned setup. A suitable cable, battery or connector can be more valuable than a duplicate of an infrequently used appliance. Use approved or manufacturer-specified items for safety-critical connections.

Label each spare with its equipment identifier and purpose. Keep the most frequently needed item within reach. Store other items under the manufacturer's conditions and check their condition during the periodic inspection. Keep loose batteries separated or packaged to prevent short circuits.

After using a spare, update the inventory and decide who replaces it. An inventory that counts an empty package will mislead the next operator. A small set of verified accessories is easier to maintain and use than a large assortment of uncertain parts.

> Give shared storage a clear place for recently used items. Return a spare to the correct container after its condition has been checked.

SOURCE KEYS P07 P09 P10

Store fuel as a managed supply

A fuel supply has a type, a quantity, a safe storage place and a condition. Record each of these. Follow the manufacturer and local fire authority's requirements for containers and placement. Keep the information with the operating plan so other people know where it belongs.

Follow the equipment and fuel manufacturers' storage and service guidance. For unwanted or deteriorated fuel, ask the local household hazardous-waste program what to do. Keep unknown fuel and usable fuel clearly separated while waiting for appropriate handling instructions.

Review the supply ahead of the season when it is most likely to be needed. Include the date and any planned replacement. The review is also a chance to check that access remains possible without moving objects that obstruct a safe working area.

> At a seasonal review, verify the quantity in storage without assuming the inventory is current. Record what was replaced and why.

SOURCE KEYS P07 P20

Make a handoff packet for the service technician

A useful service request identifies the equipment and the problem in observable terms. Record any fault code exactly, the date and time, and what was running. Describe any relevant storm, heat, water exposure or change in the installation. Include pictures taken only from a safe location.

Write down what the operator did in response. A note that says the unit was stopped and left out of service is more useful than several guesses about internal components. If the issue could affect fixed wiring or a utility connection, say so clearly at the start.

Ask the technician to document the remedy and any limitations that remain. If the visit changes how the household uses the system, request updated written instructions and a supervised demonstration where appropriate.

> Include the technician's case number if one is issued. A later call is easier when the receiving person can locate the existing record.

SOURCE KEYS P04 P08 P12 P18

Set a maintenance calendar around the actual model

Find the maintenance schedule for the exact generator, battery or installed system. Some tasks may depend on elapsed time and some on operating hours. Record the published intervals and identify which work the owner can perform safely and which requires service.

Use a seasonal reminder to check the records even if the equipment has seen little use. At each review, look for overdue work, damaged accessories and changes in how the source will be used. Replace outdated instructions if a device or connection changes.

Write the next review date after each completed task. A generator that was used heavily during an outage may need a different follow-up from one that stayed in storage. A dated calendar helps people prepare a service appointment before the next event.

> Put the next maintenance date where it will be seen even if the equipment remains in storage. A digital calendar and paper card can agree.

SOURCE KEYS P04 P07 P09

Put a used equipment purchase through the same checks

Before relying on a used source, identify its exact model and confirm that the operating instructions and approved accessories are available. Inspect accessible surfaces and cables without opening the enclosure. Search the model and serial range for recalls and ask about service history.

A low price can hide a missing charger, unknown condition or incompatible connection. Check the replacement cost and availability of any required part before buying. Where technical assessment is needed, arrange it with a qualified person rather than accepting a brief demonstration as proof of condition.

Record the result of a suitable, ordinary test before including the equipment in the household capacity estimate. A seller's demonstration can show that an indicator lights. The household plan needs to establish whether the device can do the intended job under realistic conditions.

> A written model and condition check makes it easier to compare two used options. Record any missing information before making a commitment.

SOURCE KEYS P07 P09 P12

Check borrowed equipment before including it

Borrowing can solve an immediate problem when the equipment is known and suitable. Confirm the exact model, intended use and required accessories with the owner. Check for damage, recalls and instructions before using the equipment. A label made for another household may describe an arrangement that does not fit yours.

Record who is responsible for operating the borrowed source and who will check it at the end. A generator must have a suitable outdoor location, appropriate separation and a safe connection. A borrowed battery needs approved charging equipment and a compatible load.

Agree on how and when the equipment will be returned, and who handles any fault. If the arrangement cannot be made safely, put the load on the alternate plan. Familiarity with the owner does not answer the technical questions about the equipment.

> Ask the owner whether any settings were changed during service. Include those instructions only when they are appropriate for the borrowed model and use.

SOURCE KEYS P06 P07 P09 P12

Treat water exposure as a change in condition

After flooding or severe water exposure, keep affected electrical equipment out of use until it has been assessed as appropriate. The outer surface can appear dry while the condition of wiring and internal components remains unknown. CDC recommends qualified review before returning affected wiring and equipment to use.

From a safe place, write down which items were exposed and when. Move people away from a dangerous area rather than approaching equipment to retrieve a serial number. Contact the appropriate professional or authority and follow directions about assessment, repair and disposal.

Adjust the backup inventory immediately. An item awaiting assessment cannot be counted as usable reserve. If the exposure affects communications or medical equipment, follow the alternate arrangements already made with suppliers or care providers.

> An assessment may change the time available for a fallback. Keep the time when the equipment was removed from service in the working log.

SOURCE KEYS P02 P10 P18

Make a safe place for a failed item

An item that has failed should be clearly out of the working inventory. If it is safe to handle, label it and place it where nobody will reconnect it by mistake. Keep an accurate description of the problem with the record.

A damaged battery, fuel spill or smoking item may require a different response. Move away from an active danger and contact the appropriate emergency or waste service. Follow the manufacturer and local authority's handling guidance before relocating potentially hazardous equipment.

Assign one person to decide the next administrative step, such as contacting the manufacturer, arranging service, checking a recall or requesting local disposal information. Update the equipment list when that action is complete. The point of a holding area is to keep uncertainty visible until the item is safely dealt with.

> A simple failed-equipment record can prevent a broken item from being offered to another household as an emergency spare.

SOURCE KEYS P07 P09 P10 P12 P20

Check a repair offer before accepting it

Disasters often bring unfamiliar contractors and unsolicited repair offers. Contact the utility through an established number if someone claims to represent it. Verify a contractor's license where applicable and ask for proof of insurance and a written scope of work.

Get a description of what will be inspected, replaced or installed and who will obtain required permits. Ask how the work will be confirmed complete. Keep copies of estimates, agreements, payments and inspection records. Avoid letting urgency replace these ordinary checks.

If immediate danger is present, contact emergency services or the utility through the appropriate channel. A repair appointment can then address the equipment once the site is safe. A short file of verified contacts prepared in ordinary conditions makes it easier to find help during a surge in demand.

> Check contractor information through a source you find independently. Use the official utility number instead of calling a number on an unexpected card.

SOURCE KEYS P18 P19

Prepare a backup for the person who knows the system

One household member often knows where every cable is stored and which operating condition matters. Put the essential knowledge into a format the next person can use. Limit the card to permitted actions, key warning indications, the service contact and how to switch to an approved fallback.

Have the second person explain the card back to you without a demonstration running. Ask them to locate the parts and identify any point where they would have to guess. If something requires training or a qualified person, mark that boundary clearly.

Keep the card with the equipment and a copy in a place accessible without electricity. Repeat the exercise after replacing a major component or changing the storage arrangement. The ability to find and understand the instructions is itself part of backup capacity.

> Ask the backup operator to describe a reason to stop as well as the start procedure. Keep both answers visible on the card.

SOURCE KEYS P02 P07 P09

Keep lighting independent of the main source

Place battery-powered lights where people can find them after a sudden loss of utility power. An accessible light near an exit or bedside can help someone reach a safer place or collect a phone. Check the fit for people with limited mobility or vision.

Test each light with the batteries or charging cable it will actually use. A useful test shows whether the switch is easy to find and whether the light illuminates the intended route. Keep working replacements or a secondary light within reach.

Include the lights in periodic inspections even when the main backup system has been tested successfully. A generator or large battery can require setup time. Independent lighting gives the household a usable interval while it decides what to do next.

> Use the lights during a short rehearsal after dark. Record whether people can see the controls, doors and route from their ordinary positions.

SOURCE KEYS P02 P09

Arrange a practical service contact list

Create a contact list grouped by problem. For example, utility service, fixed electrical work, generator service, battery support and hazardous waste are different kinds of assistance. Copy the official number and service hours where they are available, and date the entry.

Check who covers the address and what information each provider needs. Include a backup provider where appropriate. A useful record also identifies whether a service is normally reached by phone, an online portal or another channel. During a widespread outage, one channel may be unavailable.

Keep the list on paper and in the household offline archive. Update it when you change equipment or service arrangements. Taking a few minutes to find the right contact during ordinary conditions can prevent a long search while an important load is waiting.

> The paper list should tell a caller which details to have ready. A model number or service address can help avoid a second call.

SOURCE KEYS P02 P04 P19 P20

Record a fault without guessing at its cause

Use a simple sequence after a fault. Record what was observed, what equipment was affected, and what was done to keep people safe. If there is a display message, copy it exactly when you can observe it safely. Use approximate times only when the actual time is unknown.

Keep interpretation separate from observation. A sentence saying the source stopped after a compressor started is more useful than a claim that a particular component failed. Give the relevant observation to the manufacturer or technician along with the model information.

After the problem is resolved, record the confirmed finding and any change in the operating instructions. If you believe a consumer product was unsafe, CPSC provides a public incident-reporting channel. Keep any reference number with the equipment history.

> A fault report should separate what you saw from what the display or another person reported. That keeps later decisions grounded in the available evidence.

SOURCE KEYS P07 P09 P12 P21

Choose an alternative location in advance

Some outages exceed what a household can support on its own. Select a place that can meet the need that would trigger a move. A site suitable for charging a phone may have different resources from one suitable for temperature-sensitive care. Confirm the arrangement with the provider or host ahead of time.

Record the decision conditions, a transport method, a contact person and the items to take. Consider road conditions, accessibility and the effect of losing a communication channel. Ask how to verify that the location is available when the time comes.

Choose an earlier decision time if the consequences of waiting are serious. Leaving with time and a functioning phone is easier than discovering that a source has failed after dark. Review the arrangement when household needs or available services change.

> Confirm the fallback site can meet the stated need and that a household member can reach it. Date the confirmation.

SOURCE KEYS P02

Write a short restoration checklist

When ordinary service returns, separate what must be restored from what must be checked. Follow the utility and equipment instructions. Keep any equipment affected by damage or flooding out of use pending appropriate review. Give priority to essential functions and confirm they are stable.

Record the condition of batteries, fuel and borrowed equipment. Replace consumables and arrange needed service or proper disposal. Keep temperature and time records for decisions about refrigerated items. A completed outage can leave a household with much less reserve than it had at the beginning.

Check that the operator knows which instructions change after normal service returns. Close the log only when responsibility has passed to the person handling replenishment and repairs. Note the time and any remaining concern so a later interruption does not start from an inaccurate picture.

> Leave a brief list of supplies that must be restored before the next outage. Assign each item to the person who can verify it is ready.

SOURCE KEYS P02 P10 P11 P18 P20

Review a real outage while details are fresh

Within a few days, reconstruct the sequence using notes, timestamps and measurements. Start with the first sign of interruption and end when ordinary service became stable. Identify which estimates held up, which jobs were delayed and which devices used more energy than expected.

Pick a small number of changes that can be carried out. A better label, a verified cable or a clearer decision threshold may matter more than a new purchase. Give each change an owner and a date. Preserve the original record so later readers can see why the plan was adjusted.

Test the changed part of the plan in ordinary conditions. Repeat a short measurement or ask another person to locate the updated information. A review is complete when the household can show that a particular problem has a better response.

> Review one successful step as well as one failure. Preserve the useful part of the plan when revising the section that caused difficulty.

SOURCE KEYS P01 P02

Keep a spare copy of the operating packet

Store one copy of the working instructions where they are used and a second copy where it remains available if the first location is inaccessible. Use ordinary paper or a plain digital file that you can open offline. Date both copies and identify the person responsible for revisions.

Include only the essentials in the front of the packet. A reader should be able to find the approved operating sequence, equipment identifiers, stop conditions, alternate locations and service contacts quickly. Keep longer documentation in a labeled reference section.

Run one final check with a person who was not involved in assembling the file. Ask them to find a specific equipment card and the safe response to a sample fault. Their experience will show whether the packet can be used during a real handoff.

> Put a date on the packet and retire outdated duplicates when a new version replaces them. The working copy should be unambiguous.

SOURCE KEYS P02 P04 P07

Keeping Care Going

Make a care summary you can hand over

When a clinic changes its hours or a caregiver is delayed, a short paper record can bridge the first conversation. Put the person's name, date of birth, usual care team, and emergency contact near the top. Add diagnoses relevant to an emergency, medicine allergies and known reactions, and any communication or mobility needs the person wants staff to know.

List current medicines by name, strength, dose, schedule, and route as recorded by the treating team. Include any rescue medicine and the location of its written instructions. Identify medical devices and supplies by model or part number when replacement compatibility matters. Date the page and replace copies after a material change.

Keep one copy where the person can reach it and another with the designated helper. Store sensitive records where they are protected and share only what the receiving team needs. A useful first sentence is concrete. “My hearing aids are in the blue pouch and I understand instructions best in writing.” Let the person review the summary and choose who may carry it.

SOURCE KEYS M01 M10

Make the medicine schedule legible

A household can own a full supply of medicine and still lose track of a dose during an interruption. Phone reminders may stop. A different caregiver may know a tablet by its appearance while a replacement looks different. A legible schedule places the prescription information and the record of doses together.

Use the medication names and directions from the labels or a current list confirmed by the clinician or pharmacist. Record the usual administration times and any special instructions already supplied. Mark the last confirmed dose with the date and time. If a dose is uncertain, write “unconfirmed” and contact the pharmacist or treating clinician for advice. Changes, repeat doses, and substitutions deserve the same check.

Keep the log separate from the supply count. A low bottle is an inventory problem. An uncertain dose is a care question. If there are multiple helpers, give one person responsibility for recording each handoff. The next helper should be able to tell what actually happened without interpreting somebody else's shorthand.

SOURCE KEYS M01 M03

Arrange refills before roads close

Make two connections with your regular pharmacy while it is operating normally. Ask how early refills work for your particular prescriptions and what the pharmacy can do if another branch is the only one open. Some products or insurance plans have special rules. Write down the answer and any alternate location with a verified phone number.

Keep the current prescription list, prescriber contact information, insurance information, and labeled containers available. During a disruption, tell the pharmacist how many doses remain and when the next dose is due. A specific deadline helps the pharmacy distinguish a routine request from a same-day gap. If the local pharmacy is unreachable, call the prescriber or the alternate pharmacy for a lawful refill or transfer.

Build the plan around the medicine with the shortest usable supply. A seven-day reserve for one prescription provides little margin if a second prescription runs out tomorrow. Review the list before seasonal hazards and after any medicine change. Keep a place on paper for the pharmacy's instructions and the name of the person who gave them.

SOURCE KEYS M01 M03

Track temperature-sensitive medicines

Temperature limits belong to the individual product. Write down the storage range from the label or ask the dispensing pharmacist to confirm it. Make the same note for the opened or in-use product when its storage instructions differ. If a refrigerator loses power, record the clock time and any thermometer reading you can obtain safely.

Before an outage, ask what cooler, pack arrangement, and thermometer are appropriate for the product. Direct contact with ice can freeze some medicines. The presence of a cool pack alone gives no reliable record of the medicine's temperature. Keep the container label and lot information with the supply so a pharmacist can identify the exact product.

After an excursion, tell the pharmacist or manufacturer the approximate temperatures, duration, whether the product froze, and whether it was opened. Ask for the next safe step while replacement is being arranged. Floodwater exposure also matters. Use a separate label or bag to flag suspect medicine so another caregiver can recognize that a decision is pending.

SOURCE KEYS M03 M04

Put diabetes supplies in one working kit

An outage can change meal times, activity, temperature, and the usual path to medical advice. Assemble the supplies and clinician-approved instructions you use to manage those changes. Put a written regimen, device and supply list, and care-team contacts beside the medicines. Include the means to test if a phone, charger, or connected device becomes unavailable, using the backup method your team has taught you.

Keep the prescribed response to low or high readings with the kit. A companion can learn where rescue supplies are kept and how to call for help. Label any medicine needing temperature control. Ask the pharmacist about the exact product's storage limits and how to replace damaged supply. Insulin products and delivery methods have differences that matter during a disruption.

A check of the kit should answer three questions. Can you measure as planned? Can you take the next prescribed dose? Can you respond if a reading or symptoms require help? Resolve the weakest answer first and update the dates after replacing supplies.

SOURCE KEYS M01 M04 M23

Protect a powered medical device

A medical device's runtime is a planning input. Find the model, the supplier's service number, required electrical supply, approved battery options, and expected runtime in your own configuration. Ask the supplier which alarm or behavior indicates loss of power and what to do before the reserve ends. Different settings and accessories may change demand.

Write down how to arrange alternate care if the device cannot be operated as prescribed. An early move to a setting with verified power and the right support can preserve a much larger margin than waiting for the battery to reach its limit. Check whether a potential shelter has the outlet, assistance, and device conditions you need before relying on it.

Give another household member the written equipment instructions and a demonstration approved by the supplier. Keep batteries charged according to the instructions. If the person is in distress or the loss of the device creates an immediate medical emergency, call 911 and describe both the symptoms and the device failure.

SOURCE KEYS M02 M10 M11

Prepare a second route for oxygen support

If someone uses prescribed oxygen, ask the oxygen provider and clinician to write down the outage plan in a form a backup caregiver can follow. Find out how the primary system behaves when the power fails, what prescribed backup is available, and how to verify the remaining supply. Identify the number to call for replacement or transport.

Keep the prescribed settings with the device information. Have the provider explain any switch between equipment in advance and follow their instructions. A label can name who is responsible for checking the reserve each shift and where the backup and its compatible accessories are kept. Ask about safe storage and transport for the equipment you actually use.

Choose a time to relocate before supply runs low, based on the patient's plan and the travel delay you might face. When a person has trouble breathing, loses alertness, or has another urgent change, call 911. Report that they use prescribed oxygen and whether the device is working so dispatchers can plan the response.

SOURCE KEYS M02 M10 M11 M13

Work out a night without normal power

A power loss after bedtime can affect devices, lighting, and the person who usually provides support. List the medically necessary equipment used overnight. Add the prescribed steps for interruption and the telephone number for the supplier. Store a flashlight where a person can reach it from bed without walking across the room.

Ask the treating team how a disrupted night should be handled for the individual's condition. A substitute battery or a change to the treatment schedule depends on the device and patient. For example, a battery runtime estimate for one setup may differ once an accessory is connected. Use the supplier's compatible setup and the care team's alternate plan.

Make the path to the bathroom and exit usable in low light. Put a chair, walker, or bedside supplies in the person's normal reach. Agree on who checks that the system is functioning after the power returns. Log an interruption with the times, symptoms, and actions taken so the care team can review what happened.

SOURCE KEYS M01 M02 M10

Keep dialysis care connected

A dialysis facility can close because of power, water, staffing, or road conditions. Ask the treating center for its emergency number, alternate facility arrangements, and instructions for a missed treatment. If you receive dialysis at home, ask your team for the exact response to loss of electricity, water, deliveries, or technical support.

Keep the latest treatment information and medicine list in a small packet. Ask the facility which records it wants you to carry, including information on the access and the usual treatment schedule. Know who can coordinate an alternate appointment. Confirm opening status and acceptance before traveling to a substitute site, when communication is available.

Record the last completed treatment and the next scheduled session. If it appears that you may miss care, call the center promptly and use its emergency plan. Follow the kidney team's individualized directions while waiting. A neighbor who provides transportation can keep the two verified destination addresses and a plan for travel if the usual route is closed.

SOURCE KEYS M05 M01

Make mobility equipment travel with you

Plan for a transfer from the house to a vehicle and then from the vehicle to a destination. List the person's usual mobility aid, batteries, cushions, transfer equipment, and supplies that need to remain within reach. An accessible van and an accessible arrival point are separate requirements. Confirm both in advance where possible.

Ask the person how to help, and practice only the methods they already use safely. Keep instructions for any folding or disassembly and identify parts that can be detached. A bag for small removable pieces helps avoid a lost footrest or cable. Mark the planned location of the chair or device during transport so it is available at arrival.

Check the route from the sleeping area to an exit in low light. Note steps, door widths, thresholds, and temporary clutter. If the route uses an elevator, ask the building manager about its outage and evacuation arrangements. Assign a backup helper and rehearse the communication steps before a real disruption.

SOURCE KEYS M10 M11

Write down a caregiver handoff

A caregiver handoff should give the next person enough context to begin safely. Start with what has changed since the last ordinary day. List confirmed treatments or doses, upcoming appointments, supplies expected to run out, and the contacts that have been reached. Mark each note with the time and initials.

Then distinguish routine preferences from care instructions. The person may prefer a specific position, light, or communication method. The clinician's instructions may include when to call or where to go. Both are important. Keep clinician directions visible without expecting a replacement helper to infer them from previous notes.

Choose a backup for the person who normally understands the routine. Give the backup a copy of the care summary and the agreed way to enter or meet the household. Protect keys and sensitive information. During a practice handoff, ask the backup to describe the next two hours in their own words. Correct misunderstandings while there is time to speak with the person receiving care.

SOURCE KEYS M01 M08 M10

Keep children's care instructions current

A child may be at school, childcare, or another household when regular services stop. Ask each location how it handles release, emergency medication, and notifications. Keep the authorized pickup list updated. Give each authorized adult the official pickup location and any verification they need.

For a child with an allergy, asthma, seizures, diabetes, or another condition, use the current clinician-approved action plan. Keep required medicine and equipment where responsible adults can find them. A written plan should cover the child's usual signs of trouble and whom staff should contact. If a device or dose has changed, replace older copies in every location.

Put the child's regular care information in words appropriate to their age. Show an older child where the plan and emergency contact card are kept. Practice identifying a trusted adult and explaining what assistance is needed. A school closure may require a different pickup route. Ask the school where it posts verified instructions when its normal app is unavailable.

SOURCE KEYS M01 M08 M10

Plan infant feeding with a safe fallback

Write down the infant's usual feeding arrangement and the supplies it requires. An interruption can affect clean water, refrigeration, electricity for a pump, and the availability of formula. For formula-fed infants, CDC identifies ready-to-feed infant formula as the safest formula option in an emergency. Ask the child's clinician how to accommodate any special medical or feeding requirements.

Keep supplies for the chosen method together. A breastfeeding parent may want information on where to get feeding support if the routine changes. For expressed milk or formula, follow official storage and preparation guidance. Have a plan for cleaning feeding equipment if the water supply becomes unsafe. Any substitute feeding product deserves a check with the clinician or emergency feeding support.

A second caregiver should know the infant's feeding schedule, signs of difficulty, and where supplies are stored. Keep the child's current weight or recent care information if requested by the treating team. When relocating, tell shelter staff early if there is an infant feeding need they can help meet.

SOURCE KEYS M06 M01

Keep pregnancy care reachable

Ask the prenatal care team where to go if the usual office or delivery facility is inaccessible. Keep contact information, the planned delivery site, and an alternate route in an offline copy. Bring relevant prenatal records and medication information if you can retrieve them without delaying urgent care.

Discuss your own indications for immediate evaluation before severe weather or a planned evacuation. Record the care team's advice and tell a companion where it is kept. A power outage can affect transportation, phone access, and access to a clinician who knows your history. A backup contact and a second destination address help preserve options.

If you need to leave, call ahead when practical and tell the receiving staff that you are pregnant or recently delivered. Include how far along you are and any current concerns. If an urgent medical emergency is developing, call 911 and give your location first. If you are caring for a newborn as well, plan space for the baby's feeding, medical, and transport supplies.

SOURCE KEYS M07 M01

Support memory and orientation

For someone with memory loss, a disruption can remove familiar cues at the same time that unfamiliar people arrive. Write a short routine card in plain language, with the person's consent and input where possible. Include names, usual meals or rest times, and simple preferences that help restore familiarity.

Set up a backup caregiver who already knows the person and their communication style. Give them the current care summary and agreed emergency contacts. Keep essential aids in familiar places. If the household must leave, bring a small familiar object and the supplies needed for routine care. Tell shelter staff what kind of information or space helps the person orient.

Make the handoff concrete. Explain which cues usually work and when the caregiver should seek professional advice. For instance, a familiar name and a short reminder of the time can help some people orient. A sudden change in awareness or behavior can have medical causes and deserves prompt assessment based on severity. Maintain calm, short communication while arranging help, and note what the person was doing before the change.

SOURCE KEYS M01 M08 M10 M13

Set up accessible information

Emergency messages often arrive as speech, a small screen, or a printed notice. Decide in advance how a person will receive each type. Large print, written instructions, a text transcript, a charged communication device, or a trusted reader may be appropriate. The person's usual accessible method is the starting point.

Keep backup supplies for hearing, vision, or communication equipment with the device. If a person uses a board or application to communicate, prepare an offline copy of the essential words or cards. Include an address, requests for help, and how to reach the designated contact. Keep a pen and paper available even when everyone normally uses a phone.

Ask the intended user to test the backup in a real room under dim light and background noise. Can they read or hear an instruction? Can they report a wrong address? Can another person understand what help they need? At a shelter or clinic, request the communication format that works for the person and verify that the message has been understood.

SOURCE KEYS M10 M11

Organize support for a difficult week

Stress after an outage can show up as poor sleep, irritability, trouble concentrating, or loss of confidence in ordinary decisions. Keep familiar routines where possible. Meals, rest, regular check-ins, and manageable tasks give the day a shape. Rotate responsibilities so one person has time away from problem-solving.

Ask someone how they want help before assuming. A practical offer can be a ride, a call to locate a prescription, or time to rest while somebody else watches the children. Limit repeated exposure to distressing rumors and keep a scheduled time for checking verified updates. Children may need plain explanations and permission to ask the same question again.

If distress interferes with ordinary functioning or continues to grow, reach out to a health professional or a local disaster support service. Keep the person's preferences and consent in view. When someone faces an immediate threat to safety, call emergency services. A written list of supportive contacts can help a second household member step in when the usual caregiver is tired.

SOURCE KEYS M08 M12

Reduce spread when someone is sick

An outage can put more people in fewer usable rooms. If someone has respiratory symptoms, plan where they can rest apart from others when possible. Keep their supplies within reach and assign a helper if assistance is needed. Use hygiene, well-fitting masks where appropriate, and cleaner air when conditions permit. Outdoor smoke and heat may change the ventilation options.

Check current public-health advice for the illness when it is known. CDC's general respiratory guidance uses symptom improvement and a period without fever before a return to normal activity, followed by extra precautions. Individual care settings or illnesses may have additional instructions. Keep the household's medical needs in view, especially for people at higher risk of serious illness.

Record what changed, including the start time, symptoms, and any advice received. Tell staff at a clinic or shelter about symptoms on arrival so they can place and assist people appropriately. If a person is having trouble breathing or has another emergency sign, call 911.

SOURCE KEYS M09 M13

Decide when care must move

Give each essential care need a decision point. A battery may have several hours remaining, but the trip to a confirmed destination, loading time, and possible detours can consume much of the reserve. Estimate the total time from the decision to the moment care is working again. Allow a margin for delays.

Write the decision in terms a backup caregiver can use. For example, call the supplier when power fails and move if the approved backup cannot cover the expected interruption. Confirm the destination can receive the person and support the treatment. Mark any point at which the clinician's instructions require action regardless of the outage estimate.

Review the plan after a change in equipment, mobility, or medication. Once a transfer starts, record departure, contact attempts, and the last known treatment information. Send a short status update to a designated helper when possible. If a person is in immediate medical danger, call 911 and give the symptoms, address, and equipment problem.

SOURCE KEYS M02 M08 M10 M11 M13

First Aid While Help Is Coming

Check the scene before reaching in

Pause long enough to notice what injured the person and whether it can injure you. Look for traffic, unstable objects, exposed electrical equipment, smoke, floodwater, and signs of a hazardous atmosphere. A disconnected household may have running equipment or dangerous wiring in unusual places. Approach only when the area is safe.

If the person can respond, introduce yourself and ask permission to help. Use available protective equipment such as disposable gloves when there may be contact with blood. Look first for a threat to life, including unresponsiveness, abnormal breathing, or severe bleeding. If you see one, call 911 and start appropriate care within your training or as directed by the dispatcher.

Assign tasks to specific people. One helper can call. Another can bring the first-aid kit or an AED. Someone outside can guide responders to the correct entrance. Tell each helper what to report back. During a disruption, the ordinary front door, driveway, or room lighting may be unusable.

SOURCE KEYS M13

Give 911 the information that gets help there

Start with the location. Give a street address, unit number, and town or county. If you are on a trail or rural road, use a known landmark or a map reference that the dispatcher can interpret. Explain what is happening now and whether there is a hazard to the person or to responders.

Keep the caller's phone available. When possible, put the call on speaker and follow the dispatcher's instructions while care is underway. Tell the dispatcher if an entrance is blocked, a dog is loose, a gate needs to be opened, or the person is in an upper-floor unit with no elevator service. Use short descriptions with details you can confirm.

If an attempted call fails and another safe communication method is available, send a specific helper to seek emergency assistance. Have them carry the address, the nature of the emergency, and the return contact. Someone should remain with the person when safe. Record the time of any instructions and the time care began.

SOURCE KEYS M13 M08

Start CPR When It Is Needed

If it is safe to approach, check for response and normal breathing. Gasping is abnormal. If unresponsive and not breathing normally, shout for help and call 911 on speaker, or send someone to call and bring an AED. Start CPR immediately on a firm, flat surface.

Adult or adolescent after puberty

Put the heel of one hand in the center of the chest and the other hand on top. Keep arms straight. Push 100 to 120 times per minute, at least 2 inches deep and no more than 2.4 inches. Let the chest rise fully. If trained and able, give 2 breaths after each 30 compressions. Otherwise, keep compressing.

Child or infant

At the same rate, push about one-third of chest depth. For a child from age 1 until puberty, use one or two hands in the center of the chest, about 2 inches deep. For an infant under 1, press just below the nipple line with the heel of one hand or two encircling thumbs, about 1½ inches deep. Allow full recoil.

Give breaths for children and infants

For one rescuer, after 30 compressions, give 2 breaths if able. Lift the chin. Keep an infant's head neutral and seal over mouth and nose. Tilt a child's head slightly back, pinch the nose, and seal over the mouth. Give each breath over about one second until the chest rises. If unable to give breaths, keep compressing.

See also AED use, p. 183, and Choking, p. 184.

SOURCE KEYS M14 M57 M58 M59

Put the AED to Work

Use an automated external defibrillator as soon as one is available. If another person is there, have them continue CPR while you prepare the AED. Turn it on and follow the prompts.

Attach pads to bare skin

Expose the chest and dry it if wet. Follow the pad diagrams. For a child or infant, use pediatric pads or pediatric mode if available and appropriate for the device. If only adult pads are available, use them. If the pads would touch, follow the front-and-back placement shown on the device or pads.

Clear for analysis and shock

Tell everyone to stand clear and check that no one is touching the person. If the AED advises a shock, follow its prompts. Resume CPR immediately after a shock or a no-shock instruction. Leave the pads attached and follow the prompts for the next check.

If you are alone without a working phone

Shout for help. If you are alone with an infant in cardiac arrest and must leave to summon help, the Red Cross advises about two minutes of CPR first. Return and resume care. Continue CPR until the person shows signs of life, responders take over, the scene becomes unsafe, or you cannot continue.

See also CPR, p. 182, and Choking, p. 184.

SOURCE KEYS M15 M57 M58 M59

Recognize Severe Choking

If the person can cough forcefully, encourage coughing and stay with them. A weak or silent cough, inability to speak, cry, or breathe, or rapidly worsening distress suggests severe choking. Have someone call 911, or call on speaker if possible, while you act.

Responsive adult or child age 1 or older

Lean them forward. Give 5 firm blows between the shoulder blades with the heel of your hand. Follow with 5 abdominal thrusts, inward and upward, just above the navel. Use chest thrusts instead of abdominal thrusts in late pregnancy or when you cannot encircle the abdomen. Alternate sets until the obstruction clears or they become unresponsive.

Responsive infant under age 1

Support the head and neck and hold the infant face down with the head lower than the chest. Give 5 firm blows between the shoulder blades. Turn the infant face up, keeping the head lower, and give 5 chest thrusts with the heel of one hand on the breastbone just below the nipple line. Alternate sets. Never use abdominal thrusts on an infant.

If they become unresponsive

Lower them onto a firm, flat surface and begin CPR with compressions (page 182). Before breaths, look in the mouth. Remove the object only if you can see and reach it. Never sweep blindly. Get medical evaluation after a severe choking event.

See also CPR, p. 182, and AED use, p. 183.

SOURCE KEYS M34 M57 M59

Use steady pressure for serious bleeding

Blood that is spurting, flowing continuously, or pooling quickly can signal life-threatening bleeding. Call 911 immediately. Get the first-aid kit and put on gloves if available without delaying care. Apply firm, continuous direct pressure with gauze or a clean cloth. Ask someone else to keep the call open and report the changing condition.

If blood soaks through the dressing, keep pressing. Frequent lifting breaks pressure and makes it harder to tell whether the bleeding is controlled. If an object is embedded, leave it in place and apply pressure around it. A trained helper may use a commercial tourniquet for life-threatening limb bleeding according to their training.

Check that the person continues to breathe and respond. Keep them warm and monitor for shock while waiting for help. Tell responders where the bleeding was, how long pressure was applied, and when any tourniquet was placed. Practice finding and opening your bleeding-control supplies in dim light before you need them.

SOURCE KEYS M13 M16 M18

Recognize possible shock

Shock can develop when the body cannot circulate enough blood and oxygen. A person with severe injury or illness may become pale, cool, clammy, weak, unusually restless, or less alert. Breathing may become fast. Call 911 when these changes follow a serious injury or illness.

Treat an immediate cause within your training, such as using direct pressure for bleeding. Keep the person warm and still. If you suspect an injury to the head, neck, or back, keep them in the position found unless safety or lifesaving care requires movement. Follow dispatch instructions about positioning and monitor breathing and responsiveness.

Keep food and drink aside while emergency care is pending. A quiet voice and steady information help the person know what is happening. Tell responders what preceded the change and how quickly it developed. A useful description identifies the observations. “He was answering questions at 6:10 and stopped answering at 6:16” gives responders a sequence they can use.

SOURCE KEYS M13 M16 M18 M35

Clean and protect a minor wound

For a small cut or scrape with manageable bleeding, wash your hands and use gloves if available. Apply gentle direct pressure until bleeding stops. Rinse the wound with clean running water and cover it with a clean dressing. Replace the dressing when it becomes wet or dirty.

Seek medical advice for wounds that are deep, punctured, contaminated, or hard to clean. Animal bites and injuries involving floodwater or dirt require attention to infection risk. A clinician can decide whether tetanus protection or other treatment is needed. Bring vaccination information if you have it, especially when the wound is dirty and the last tetanus dose is uncertain.

Watch for increasing pain, spreading redness, swelling, warmth, drainage, or fever and seek medical care if those signs develop. If bleeding becomes heavy or uncontrollable, treat it as an emergency. During cleanup, avoid putting bare hands into unseen debris. Place gloves and dressing supplies where they are easy to reach in the dark.

SOURCE KEYS M16 M25 M36

Cool a small thermal burn

Move away from the heat source and check that the scene is safe. For a small thermal burn, use cool, clean running water to cool the area. Red Cross guidance gives a range of five to twenty minutes when feasible. Avoid freezing the skin or chilling the whole person. Cover the injury loosely with a clean, nonstick dressing after cooling.

Leave material that has stuck to the skin in place. Keep household creams, grease, and ice away from the burn. Electrical and chemical burns have separate hazards and may require a different approach. Severe pain, extensive or deep injury, trouble breathing, or a burn involving sensitive areas deserves urgent evaluation. Call 911 for serious burns or other emergency signs.

Tell responders what caused the injury and when it happened. This matters especially when hot liquid soaked clothing or there may have been electrical contact. In a crowded cooking area, place hot vessels well away from traffic and reserve a clear surface for first-aid supplies.

SOURCE KEYS M13 M17

Leave a suspected carbon monoxide exposure

Carbon monoxide cannot be detected by smell or sight. Headache, dizziness, nausea, weakness, confusion, and chest pain can occur after exposure. Suspicion should rise when several people become sick in the same building or when a carbon monoxide alarm sounds. Move to fresh air promptly and call 911 from a safe location.

Leave the building even if the source is uncertain. Tell dispatch that carbon monoxide is suspected and say whether anyone is missing, unable to leave, or unconscious. Wait for trained responders to assess the atmosphere and make rescue decisions. An indoor atmosphere can endanger a person who enters to help.

After leaving, tell medical staff about the possible exposure, how long it may have lasted, and whether anyone has symptoms. A device's usual status or the absence of a smell gives little information about the exposure. Keep carbon monoxide alarms functioning and review the exit route in advance, including an alternate exit that is usable during a power loss.

SOURCE KEYS M13 M26

Give Poison Control a clear exposure report

For a possible poisoning, gather the product name, label, amount if known, time, route of exposure, and the person's age and symptoms. Call Poison Control at **1-800-222-1222** for individualized guidance in the United States. A helper can make the call while another brings the product information. Keep the label available for responders.

If the person collapses, has a seizure, has trouble breathing, or cannot be awakened, call 911 immediately. Keep yourself clear of the substance. Give the dispatcher any relevant scene hazard, including fumes or spilled chemicals. Follow instructions about first aid. Inducing vomiting or applying a home remedy can add harm and should be avoided unless qualified guidance specifically directs an action.

During outages, cleaners and fuel sometimes get moved to unfamiliar shelves. Keep products in labeled containers and separate them from food, water, and medicines. Update the household's plan when a new chemical or cleaning task is introduced. A product name and label help Poison Control give more precise advice.

SOURCE KEYS M13 M27

Act Quickly on Anaphylaxis

Trouble breathing, throat or tongue swelling, faintness, or rapidly worsening symptoms after a possible allergen exposure can signal anaphylaxis. Widespread hives may occur. Act immediately.

Give prescribed epinephrine promptly

Help the person use their prescribed epinephrine according to their action plan and the instructions for their device. If someone else is present, have them call 911. If alone with a working phone, call on speaker and begin care immediately. If the call cannot go through, help with epinephrine without waiting, then seek emergency help by the fastest safe means.

Monitor and follow the action plan

Record when the medicine was given. Keep watching breathing and responsiveness. If symptoms continue and help is delayed, follow the action plan and device instructions for a repeat dose. Red Cross first-aid guidance discusses a second dose after 5 to 10 minutes when symptoms persist and EMS has not arrived.

Keep emergency care in the plan

The person needs emergency evaluation even if symptoms improve. If they become unresponsive and are not breathing normally, start CPR and use an AED when available. Give responders the times and the used devices.

See also Calling for emergency help, p. 181.

SOURCE KEYS M19 M14 M15

Follow the prescribed response to low blood sugar

A person with diabetes may have a care plan for low blood sugar. Recognize that shakiness, sweating, weakness, confusion, or behavior changes can have multiple causes. If the person is able, help them check according to their plan. Keep their written response and rescue supplies together so a substitute caregiver can find them.

If the person is awake and can swallow safely, follow the individual's clinician-approved plan for treating and rechecking a low reading. If they are unable to swallow safely, have a seizure, or become unresponsive, call 911 and keep food and liquids out of their mouth. A trained helper can use the prescribed rescue medicine according to its instructions and the person's plan.

Write down the reading, symptoms, time, and action. Share the record with the treating team and responders. Household practice should include locating the glucose monitor, identifying the rescue kit, and making the emergency call. Ask the team to clarify any steps that a substitute caregiver finds ambiguous.

SOURCE KEYS M13 M23

Recognize possible stroke

A stroke can appear as sudden facial droop, arm weakness, or difficulty speaking. A sudden change in vision, balance, coordination, or a severe unexplained headache can also be a warning sign. Call 911 immediately when stroke is suspected. Give the location first, then the symptoms and their time of onset.

If you witnessed the change, write down when it began. If you discovered the person with symptoms already present, report when they were last known to be well. A person who improves still needs urgent evaluation. Follow dispatcher instructions, keep the person safe while waiting, and note any change in responsiveness or breathing.

Use precise observations. “Her speech became hard to understand during breakfast” gives responders a specific observation tied to an event. Have the medication list and identification available if someone can fetch them without delaying the response. An ambulance can begin assessment and communicate with the receiving hospital while en route.

SOURCE KEYS M13 M20

Treat possible heart attack as urgent

Chest pressure or discomfort, shortness of breath, nausea, a cold sweat, lightheadedness, or discomfort in an arm, the back, neck, or jaw can occur in a heart attack. The pattern varies by person. Call 911 if you suspect a heart attack. A delay to see whether the discomfort settles can cost valuable time.

Help the person rest in a position they can tolerate and follow instructions from the dispatcher. Tell the caller about relevant prescribed medicine and allergies if known. If the person becomes unresponsive and has no normal breathing, start appropriate CPR and use an AED as soon as it is available.

Record when the symptoms began, what the person was doing, and whether the symptoms changed while waiting. If normal access is blocked, assign someone to meet the ambulance from a safe location. Bring the person's current written care information to the handoff if it is immediately available.

SOURCE KEYS M13 M14 M15 M21

Keep a person safe during a seizure

Stay with the person and time the event. Clear nearby objects that could cause injury and protect the head with something soft. Loosen tight clothing around the neck when safe. If the person is lying down and can be gently turned onto their side safely, position them so the airway stays clear. Keep objects, food, and liquids out of the mouth and allow the movements to run their course.

Call 911 if the seizure lasts longer than five minutes, another begins soon afterward, the person has difficulty breathing or waking, an injury occurs, or the seizure happens in water. CDC also recommends a call for a first known seizure, a seizure during pregnancy, or loss of consciousness in a person with diabetes. Follow the person's action plan if one is available.

Stay until the person is alert and safe. Tell them what happened in simple terms. Record the duration and recovery, and share the information with the person or their designated caregiver.

SOURCE KEYS M13 M22

Assess a fall before trying to lift

Ask what happened and where it hurts. Look for serious bleeding, head injury, unusual position, or difficulty breathing. Ask a responsive person to remain still if a head, neck, or spinal injury is possible. Move them only if required for immediate safety or lifesaving care and follow dispatcher instructions.

Call 911 for major injury, altered awareness, trouble breathing, or other emergency signs. Tell responders whether the person struck their head, had a brief loss of awareness, or takes a medicine that the care team has flagged as relevant to injury. If someone fell from a height or landed on a hard edge, give that detail.

For a person with an established transfer or fall response plan, consult the written plan and their care team. A second caregiver can clear obstacles and provide light. Record what was observed at the time and which symptoms appeared afterward. A safe exit path and consistent placement of mobility aids reduce avoidable trips through a dark room.

SOURCE KEYS M10 M13 M24 M35

Watch for danger after a head impact

Symptoms from a head injury can develop or change after the initial impact. Record when and how it happened and any loss of awareness, memory gap, or symptom that followed. A clinician can assess whether a concussion or another injury is possible.

Get emergency care for worsening headache that persists, repeated vomiting, seizure, new weakness, increasing confusion, or a person who is hard to wake. Unequal pupils or new slurred speech can also be danger signs. When a serious neck or spine injury may be present, keep the person still and follow emergency instructions.

Tell responders the patient's age, medicines if known, and the sequence of symptoms. If a child was injured, include observations from adults who saw the event and who know the child's usual behavior. The dark or noise of an outage can make changes harder to notice. Designate one observer and write down the time of each important change.

SOURCE KEYS M13 M24 M35

Hand responders a short timeline

By the time help arrives, several people may have seen different parts of an event. Write down the known facts in time order. Include when the person was last well, what happened, the first symptom noticed, any medication or first aid given, and changes in breathing or awareness. Mark estimates as estimates.

Say who witnessed each major detail and who can answer questions. Hand the written care summary to staff if the person agrees or emergency circumstances require it. Tell them where needed equipment and accessible communication supplies are. If a usual caregiver is absent, provide a way to reach them.

A household can practice this without staging an injury. Give one person a sample scenario, another a phone, and a third an empty log. See whether the receiving person can reconstruct the story. After a real event, update the supply list, replace used items, and ask the care team what follow-up information should be kept.

SOURCE KEYS M08 M10 M13

Extreme Weather and Air Quality

Read the action in a weather alert

A watch usually says conditions could support the hazard. Use it to shorten the time needed to act. Check where everyone is, confirm the safest reachable place, and review what supplies or equipment must move with you. Bring a second alert method into service in case the phone or internet fails.

A warning means the hazard is occurring or imminent according to the issuing authority. Read the hazard, affected area, time, and requested action. A tornado warning may call for immediate nearby shelter. A flash flood warning may require moving away from low ground. The safe response depends on the hazard and your location.

Keep a paper list of nearby county names, towns, rivers, and roads. An alert can mention a location you know by a different name. Give each member of the household an action they can take with the information available. Recheck the official message when communication is restored. Note the issue time so an older message cannot silently replace the current one.

SOURCE KEYS M31 M44

Measure the room people actually occupy

During a hot outage, the temperature in a room can diverge from the outdoor forecast. Check the room people actually occupy, particularly an upper-floor bedroom or a space with afternoon sun. Place a thermometer away from a window or appliance and record when you checked it. Include a second room so you can see which space is heating fastest.

Close shades on sunlit windows and reduce avoidable indoor heat. Move vulnerable household members to the cooler safe space early. CDC advises using fans only when the indoor temperature is below 90°F because above that threshold a fan can increase body temperature. Air conditioning or a cooler location may be needed before an indoor thermometer reaches that point, especially for someone medically vulnerable.

Set a time to check people and room conditions again. If the indoor space continues warming, contact a cooling location and arrange transport before symptoms appear. Verify opening hours and any accessibility or medical power needs.

SOURCE KEYS M28

Respond to signs of heat illness

Heat exhaustion can bring heavy sweating, weakness, dizziness, nausea, headache, or cramps. Move the person to a cooler place and cool the skin. If they are alert and can safely swallow, offer sips of water. Seek medical advice if symptoms worsen or persist or if the person vomits.

Confusion, collapse, a seizure, or altered awareness in severe heat can indicate heat stroke. Call 911 and start cooling immediately. Move the person into shade or a cooler place if safe, remove excess clothing, and use wetting and other available cooling measures while following dispatcher instructions. Keep drinks away from a person who is confused or unable to swallow safely.

Keep a record of the onset and the steps taken. Heat can affect several people during outdoor work or a crowded indoor outage. After the first person becomes ill, check anyone who shared the same exposure. Establish a cool recovery area and pause the task until conditions are safer.

SOURCE KEYS M13 M28 M29

Find usable cooling before you need it

The nearest building with air conditioning might close early, require a long walk, or be affected by the same outage. Identify at least two destinations before hot weather. One could be a public cooling center and the other a household with a verified safe room. Ask about hours, accessibility, and rules for pets and essential equipment.

Plan the trip for the person who will have the hardest time making it. Write down a driver, backup driver, doorway, and a route with a known alternate. An accessible vehicle may still be unsuitable if the receiving location lacks a safe unloading area or required medical support. Confirm the site can meet those needs.

Check the route and opening status before leaving if time and communication allow. Bring essential medicine, drinking water, chargers, and care information. A short stay may become an overnight stay if the interruption continues. Decide where you will go if the first location has to close.

SOURCE KEYS M10 M11 M28

Plan outdoor tasks around heat

An outage often creates tasks that pull people into direct sun. Moving equipment, clearing branches, or hauling supplies can turn ordinary heat into a demanding exposure. Ask whether the task can move to an earlier or later hour. Make a plan for shade, cool water, shorter work intervals, and a partner who can notice changes in behavior.

Before starting, give each person a task and a stopping point. Use lighter loads and additional trips when that reduces exertion. A spare hand should be able to reach a phone and know the exact location. Keep the place to cool down close enough to use during a short break.

Pay particular attention to people who have not been working in heat recently or have a health condition or medication that affects heat tolerance. Encourage them to follow their care team's advice. If someone becomes dizzy, weak, or confused, stop work and respond to the symptoms. Revisit the schedule before sending anyone back into the same conditions.

SOURCE KEYS M28 M29

Select a safe room for cold weather

In a winter outage, choose a room that can hold the household with a usable exit and enough space for sleeping and medical equipment. Close unused rooms if doing so is safe for the building. Add dry clothing and blankets and insulate people from cold floors. A room that stays a few degrees warmer can still become unsuitable as the outage continues.

Keep the route to the exit, bathroom, and water clear. Take regular readings in the occupied room and check the people most likely to have trouble staying warm. Cold can affect older adults, infants, and people who have difficulty moving or communicating. If someone has a care plan for temperature or equipment, keep it available.

Use heating equipment only in the way its manufacturer and safety authorities specify. Outdoor combustion equipment belongs outside. If the safe room is cooling faster than the household can manage, use the move plan before roads or the occupants' condition make travel harder.

SOURCE KEYS M26 M30 M33

Recognize hypothermia early

Hypothermia can develop during exposure to cold, including exposure made worse by wet clothes, rain, sweat, or cold water. Shivering, clumsiness, exhaustion, confusion, slurred speech, and drowsiness can be warning signs. A person may be unable to recognize their own deterioration.

Get medical help promptly when hypothermia is suspected. Move the person to a warm, dry shelter if safe, replace wet clothing with dry layers, and warm the center of the body first with blankets or available gentle warmth. Handle the person gently and follow instructions from emergency responders. Keep alcohol away and give warm drinks only when the person is fully alert and can swallow safely.

Report the length of the exposure and whether there was immersion, injury, or a change in breathing. If the person is unresponsive and breathing is absent or abnormal, call 911 and follow dispatcher instructions for lifesaving care. Plan warm, dry replacement clothing where you can retrieve it quickly during a winter outage.

SOURCE KEYS M13 M30

Protect skin from frostbite

Frostbite can affect exposed areas such as the face and ears as well as fingers and toes. Numbness, unusually pale or grayish skin, or skin that feels firm or waxy should raise concern after cold exposure. Get to a warm place and seek medical care. Check for signs of hypothermia, which takes priority.

Protect the area from pressure and further cold. Avoid rubbing it or using direct heat from a stove, heater, or heating pad. If medical care is unavailable immediately, CDC recommends gentle warming in warm water or with body warmth when appropriate, provided the tissue can stay warm and will not freeze again. Follow medical guidance when reachable.

Keep a note of when the exposure occurred and what protection or warming was used. Boots, gloves, and head coverings should fit well enough for their intended work and remain dry. Arrange replacements ahead of outdoor tasks if water or sweat may soak the first set.

SOURCE KEYS M30 M46

Use wind chill to plan exposure

Wind chill estimates how cold it feels to exposed skin when moving air carries heat away. It can flag danger on a day when the air temperature alone looks manageable. Use the local forecast and National Weather Service guidance to plan outside time, clothing, and warm breaks.

When wind is strong, check which work areas are sheltered. A place behind a building may feel much less exposed than a nearby open driveway. Cover exposed skin with dry layers and arrange a way to go inside quickly. If gloves or footwear get wet, change them when possible. Fatigue can make someone less likely to notice numbness or lose interest in checking a partner.

Avoid treating a wind chill chart as a timer that guarantees safe exposure. Clothing, water, activity, and individual health all affect risk. Set a conservative check-in interval for necessary outdoor tasks and name the person who will call everyone in if weather or visibility changes.

SOURCE KEYS M30 M46

Avoid travel in sudden whiteout conditions

A snow squall can sharply reduce visibility and make a road icy within minutes. Check official warnings before departure and delay travel when a squall threatens your route. A highway may look passable at one exit and become difficult to see at the next. Snow and traffic can also block the shoulder you expected to use.

If visibility drops while you are already driving, slow gradually, increase following distance, and seek a safe place off the roadway when you can. Avoid abrupt braking and stopping in a travel lane. Follow current road and emergency guidance. Keep a charged phone and a known route to reach help.

If stranded in a winter storm, National Weather Service guidance generally favors staying with the vehicle unless an immediate danger or a safe nearby shelter changes the choice. Tell responders your location and vehicle description. Keep a way to stay warm, and follow official guidance about any engine use, including keeping the exhaust clear.

SOURCE KEYS M37 M45

Choose a tornado refuge ahead of time

Select a basement or small interior room on the lowest available floor of a sturdy building. Choose a place away from windows and exterior walls. Walk through the route and identify how everyone can reach it in low light. Put sturdy shoes and a light where they can be grabbed quickly.

On a warning for your location, move to the refuge immediately and protect your head and neck. If you are in a public building, follow staff or posted directions. Keep animals under control if you can bring them safely. Take an alert device into shelter when readily available and monitor official information from there.

Confirm that the place is still usable after household changes. Storage can fill the floor, a new lock can delay access, and a family member may be unable to use the stairs. Agree on an accessible alternate. Check which neighbors or facilities can provide a sturdier place when your own building is unsuitable, and make the move before conditions deteriorate.

SOURCE KEYS M10 M31 M38

Leave a manufactured home before a tornado arrives

A manufactured or mobile home offers less protection in a tornado than a sturdy permanent building. Identify a designated shelter or another stronger building before a watch is issued. Ask who opens it, whether the entrance is accessible, and how to reach it after dark.

Build an early departure trigger into the plan. A household that needs to load medical gear or help someone travel may require more time than it can count on once a warning arrives. If severe weather is forecast, make the decision while the route is usable. Confirm that the destination is available.

Keep the route short and practice it in ordinary conditions. Give everyone a location they can name rather than relying on a message that may fail. If you are caught away from a sturdy shelter when danger is imminent, follow current National Weather Service or local emergency guidance. Avoid overpasses as shelter. Have a backup plan for blocked roads or a closed destination.

SOURCE KEYS M10 M31 M33 M38

Move indoors when thunder is audible

Audible thunder means lightning is close enough to present a threat. Head to a substantial building or an enclosed, metal-topped vehicle with the windows up. A picnic shelter, open porch, or small shed is a poor refuge. Choose a route that gets you away from exposed ground without unnecessary stops.

Indoors, avoid contact with plumbing, corded equipment, and other conductors during the storm. Keep clear of windows and doors. Wait at least 30 minutes after the last thunder before going back outside. Continue to monitor for severe thunderstorm warnings, which may also involve damaging wind or large hail.

Review the refuge for places you regularly work outdoors. A trail, fishing spot, or sports field may be farther from shelter than you expect. Tell people where to meet before the event starts and name the person who calls the stop. Canceling or moving an outdoor activity early preserves more choices than waiting for rain.

SOURCE KEYS M31 M39

Move away from rising water early

Flash floods can rise fast, including downstream of heavy rain that never falls directly on you. Look at where your home, campsite, or road sits relative to creeks, drains, washes, and low crossings. Pay attention to official warnings and local instructions. If water is rising or an alert applies to your area, move to higher ground when you can do so safely.

Avoid going into floodwater to check its depth, retrieve equipment, or clear a drain. Water can carry debris, conceal a drop, or move faster than it appears. Keep people and pets away from channels and low approaches. Know which of your planned routes stays above the likely water path.

If floodwater has cut off a safe exit, call 911 and describe your location and immediate conditions. Follow responder instructions. Before the next storm, record which roads closed first and choose a route that does not rely on crossing the same creek twice.

SOURCE KEYS M33 M40 M47

Turn away from a flooded road

Water over a road hides damage, debris, holes, and the edge of the driving surface. It may be moving hard enough to carry a vehicle. Turn around when a roadway is flooded or blocked by a barricade. Use a verified alternate route, or wait in a safe location away from rising water.

At night, slow down when approaching drainage areas and allow room to turn around before you reach water. A dark patch near a low crossing deserves caution. If a navigation app sends you toward a flooded segment, obey official closures and road signs. A short detour can become unsafe if it leads to a second low crossing.

Tell your household contact which route you took and when you expect to check in. If you become trapped, call 911, report your location, and follow the dispatcher. Keep a paper map available so someone else can direct help when the phone map cannot load.

SOURCE KEYS M33 M40 M47

Prepare to leave ahead of wildfire

Find the official evacuation alert system for your community and learn its local terms. Put keys, medicines, and essential equipment where you can take them quickly. Plan two routes and destinations. The first route may be unavailable because of fire, fallen lines, congestion, or instructions from responders.

Leave when ordered or when conditions make it unsafe to stay, using the route directed by authorities. A household that needs extra loading time, accessible transport, or animal arrangements should make an early decision. Tell a contact where you are headed when you can safely do so. Avoid returning until officials permit access.

Smoke can reduce visibility and change travel conditions before flames are nearby. Keep fuel or charge sufficient for the chosen route and likely delays. If an instruction changes while you are moving, follow current directions from responders. A checklist that can be completed in minutes should put people, medical needs, and the exit ahead of property tasks.

SOURCE KEYS M33 M43 M49

Make a room with cleaner air

During a smoke event, choose a room that can be closed to reduce outdoor smoke entering while maintaining a safe exit. Keep doors and windows closed when safe, reduce indoor sources of particles such as smoking, candles, and frying, and use suitable filtration if power is available. Follow the air cleaner or HVAC equipment instructions.

EPA suggests using a properly sized portable air cleaner with an appropriate smoke clean air delivery rate. If using a central system, check which filter your equipment can safely support and how to set it during smoke. A closed room can also get hot. Check the indoor temperature and have a way to leave for a cleaner and cooler location if needed.

Choose the room before smoke arrives and store compatible filters where you can find them. Determine how an outage changes the arrangement. If your air cleaner stops and the room continues to deteriorate, use the backup location or official shelter guidance.

SOURCE KEYS M28 M32 M41 M42

Interpret smoke readings and mask fit

The Air Quality Index summarizes outdoor air quality for a reporting place and time. Use a current official value and check whether smoke is changing around you. A station may be some distance away, and a forecast can lag local conditions. Pay particular attention to children and people whose health conditions increase their risk from smoke.

Reduce outdoor activity and seek cleaner air as conditions worsen. If you need to be outside, a well-fitting NIOSH-approved particulate respirator such as an N95 can reduce exposure to smoke particles. Follow the fit instructions. A respirator provides the expected benefit only when it fits and is appropriate for the wearer. Ask a health professional about use if needed.

Keep smoke information with your plan for travel, cooling, and indoor filtration. If an older AQI value is the only one available, label the time rather than treating it as current. Get medical help for severe symptoms such as trouble breathing.

SOURCE KEYS M42 M48 M49 M13

Resolve competing shelter needs

A room that protects against smoke may become dangerously hot if the air conditioner fails. A basement that works for tornadoes may be a poor choice when flooding threatens. A facility with power may have stairs or may be on the wrong side of a closed road. Identify more than one shelter option so the plan can change with the hazard.

Name the immediate threat and then assess the next one. For example, while an active tornado warning requires nearby shelter, a separate decision about clean air or overnight temperature may follow after the warning ends. Check official instructions for both hazards. Tell the group which action is immediate and when you will reassess.

Keep a plain record of shelter locations, opening status, route conditions, and who needs help moving. On a multi-hazard day, ask another person to verify the newest information while you handle the immediate move. A shared plan should leave room to adapt when the first option is no longer safe.

SOURCE KEYS M28 M33 M38 M40 M41

Evacuation and Accessible Shelter

Make a shelter-or-leave decision

Begin with the official instruction for your location and the hazard. Consider whether the building can protect everyone inside and whether the route out remains safe. A nearby tornado refuge can be the immediate destination while an approaching wildfire may require moving well beyond the neighborhood. Allow the situation, the alert, and the needs of the people present to determine the response.

Write down what would make you move before an official order if the situation worsens. Loss of medically necessary power, dangerously changing indoor temperature, and a closing access route are examples of circumstances that can shorten your time. Plan a destination that can meet the need that is driving the move.

If conditions are still safe, confirm the receiving location and the current route. Then give one person responsibility for the final check and another for the status message. An evacuation order or immediate threat takes priority over packing and home checks. Include visitors or caregivers who may be unfamiliar with the plan.

SOURCE KEYS M10 M11 M33 M43

Put departure time on the plan

A departure time depends on the hazard and the slowest part of getting out. The time to load a wheelchair, collect a child, arrange a driver, or move animals can exceed the drive itself. Estimate those tasks during normal conditions and add time for traffic, darkness, and unexpected closures.

Use official warnings to set the latest safe departure, then plan backward. A household may decide to leave before an order because it needs an accessible vehicle or because there is only one low-water crossing. Write down the decision, who makes it, and how the other people hear it. Give each helper a short task and a place to meet.

If the order applies immediately, leave promptly according to official directions. Take essential supplies that are ready and keep the exit clear. Tell your contact where you expect to arrive when it is safe to send a message. If the planned driver is unreachable, use the backup arrangements early.

SOURCE KEYS M10 M33 M43 M54

Compare routes by their weak points

Mark the usual route and at least one alternative to each destination. On paper, identify bridges, low crossings, steep grades, narrow roads, and areas that may lose traffic control. A route with fewer miles can still have a single point of failure. Ask a second person to explain the alternatives without using the map app.

Look for official road conditions and closures before leaving when communication is available. Follow posted barricades and directions from responders. Check whether the alternate route uses the same bridge, creek crossing, or evacuation choke point as the first. An alternate should solve the problem that makes the first route unavailable.

Set a place to stop safely if you need to reassess. It should be away from the hazard and outside travel lanes. When the route changes, update the receiving person with the new destination and expected check-in. Review the map after major road work or after a move to a new neighborhood.

SOURCE KEYS M33 M40 M43

Verify that a destination can receive you

Start with the reason you are leaving. If you need cooling, confirm that the destination actually has usable cooling. If you need a wheelchair-accessible bathroom or an outlet for prescribed equipment, ask about that feature specifically. An open facility can still be unsuitable for a particular person's needs.

Write down a primary and a backup destination. Include address, entrance, opening hours if known, contact information, pet arrangements, and the approximate time needed to get there. Ask what to bring and whether registration or coordination is needed. Confirm current conditions before traveling when time allows.

Think through the first hour after arrival. Where do you unload? Where can the person wait without exposure to heat, cold, or smoke? Who goes inside to confirm the place is ready? Give the receiving person a way to contact you and tell your household point of contact when you have arrived. Reconfirm the plan if a facility closes or weather changes.

SOURCE KEYS M10 M11 M33 M50

Arrange transportation without a private car

Identify who may need a ride and where pickup can occur safely. Ask local emergency management or transit providers about publicly available evacuation transportation and how to request accessible service. Availability, eligibility, and arrangements vary. Record official contact details and the time at which a request should be made.

Create a second option with a neighbor, family member, or established service. Confirm the vehicle can carry any mobility equipment and the number of people involved. Decide who will contact the driver and who will meet them. Keep the essential items together so loading does not rely on a long search.

For a person without reliable phone service, arrange a check-in method and a safe meeting place. If the first ride fails, use the alternate before conditions close the route. Keep medical emergency transportation separate from routine evacuation transport. If immediate medical help is needed, call 911 and describe the situation to dispatch.

SOURCE KEYS M10 M11 M33 M54

Stage an accessible pickup

A pickup works best when the driver and passenger know the same meeting point. Choose a place with enough room to stop and operate any ramp or lift safely. Check grade, surface, lighting, turning space, and weather exposure. Ask the person who uses the equipment what would make the transfer workable.

Place essentials within reach and mark which items must travel with the passenger. A mobility device, communication aid, rescue medication, and power equipment can become separated from the person if they are treated as ordinary luggage. Check that attachments are secured and that small removable pieces have a container.

Give the driver a clear way to confirm arrival. If the person cannot safely wait outdoors, agree how they will be notified and who will assist from the door. Ask the receiving site where it can accept a similar transfer. Test the arrangement in daytime and then review what would change in rain, low light, or an elevator outage.

SOURCE KEYS M10 M11 M54

Include a service animal in the plan

Plan for the person's working relationship with their service animal throughout the trip. Keep a leash or harness, water, food, any regular medication, and waste supplies available. Decide how the person and animal will board the vehicle and reach the destination together. Pack the supplies needed for a short wait as well as an overnight stay.

The Department of Justice describes ADA access for service animals in public programs, including emergency planning and sheltering. Tell the receiving staff you have a service animal and ask where it can relieve itself. Service animal access follows different rules from a shelter's arrangements for pets. The person should remain involved in decisions about their animal's handling and care.

Identify a helper who understands the person's instructions if an emergency temporarily interrupts their routine. Discuss the placement of water and equipment so it remains reachable. If the shelter or vehicle changes, tell the next provider what arrangements are needed and confirm the route for entering.

SOURCE KEYS M10 M11 M52

Give household pets a destination

Choose a place for each household pet before an evacuation. Some shelters can accommodate pets or coordinate with a nearby animal shelter. Other destinations have limits on species, size, or capacity. Confirm current arrangements directly and keep a second option. Account for any different needs of birds, reptiles, or other small animals.

Set up a carrier or safe restraint and attach a way to identify the animal. Pack food, water, medicines, waste supplies, and veterinary information useful to the receiving site. Keep the gear close enough that a second caregiver can find it. A pet that hides during noise may need more loading time.

Include the animal in transport calculations. A large carrier may use the space needed for a wheelchair or another passenger. A practice load in calm conditions can reveal the conflict early. Have a contact who can collect an animal if the usual caregiver cannot return home and agree how they will be authorized to do so.

SOURCE KEYS M08 M50 M51

Pack in order of immediate use

A short departure window makes the location of items more important than the total quantity owned. Put the things you will need at the door or in the first hour together. Include identification and care information when appropriate, essential medicines, a communication method, and clothing for expected conditions. Keep small essentials in a container that travels with the person.

Put larger reserve items in a second group. Place supplies that require temperature control or special handling in their intended containers. Identify which bags can be left if the trip must begin early. Allow enough vehicle space for passengers and equipment before adding property items.

Ask a second adult to retrieve the essential items without verbal coaching. A clear label or familiar location saves time when the regular caregiver is elsewhere. Check weights and whether a person can move the bags using their ordinary aid. When an official instruction requires immediate departure, use the most readily available essentials and go.

SOURCE KEYS M01 M10 M33

Choose a reunification point

Pick a place near home for a short separation and another outside the neighborhood for an area evacuation. Tell everyone when each place applies, what it looks like, and how long to wait safely. A shared destination reduces the need to solve the entire problem by phone.

Arrange a contact outside the affected area if possible. Give that person permission to collect short status messages. Agree on an update that says who is safe, where they are, and when they expect to report again. If somebody moves to a second destination, send the change when it is safe.

Review school and childcare procedures separately. Authorized adults should use the facility's official release instructions. Children should know which trusted adult to approach if separated. At a shelter, ask staff how to reconnect with household members. A plan that depends on one phone number benefits from a written copy in more than one place.

SOURCE KEYS M08 M33 M50

Learn the exits from a shared building

Ask building management about alarms, accessible exits, and emergency arrangements. Walk the stairs and corridors you would use and identify another route if one is blocked. Include the location where responders can meet a person who needs assistance. A change of locks, storage, or floor assignment can alter the plan.

In a fire, follow the building's emergency directions and use the designated stairs unless the fire department directs otherwise. If a person has limited mobility, prepare with building management and local responders rather than improvising a transfer during smoke or darkness. Know how to describe the person's location to 911.

Outside, meet away from the building and where responders can reach the entrance. Account for the people in the group and tell firefighters if someone may be inside. Use the plan in other shared places you visit regularly, including work or an apartment of a relative. Read posted instructions and know which exits are usable after hours.

SOURCE KEYS M10 M11 M55

Include the people who happen to be there

An outage can begin when a visitor, paid caregiver, repair worker, or delivery person is present. During a serious incident, they may need the same clear directions as a member of the household. Identify the exit, meeting place, current hazard, and communication method in a few words. Ask whether anybody needs help following those directions.

A visitor may have a medicine or mobility need unknown to the household. Include them in a headcount and ask which assistance they want. Let them notify their own household when possible. If they leave with you, confirm where they need to go and whether the destination can accept another person.

In shared buildings, explain the route in local terms. “Take the far stairwell beside the laundry room” may be easier to follow than a numbered exit the visitor has never seen. Do a final headcount at the meeting point. Tell responders what you know about anybody still inside, without entering an unsafe area to check.

SOURCE KEYS M08 M11 M33 M55

Use shelter intake to surface immediate needs

On arrival at a public shelter, ask staff where to check in and how to get current information. Give enough detail for them to meet immediate needs. Mention any medicine refrigeration, accessible communication, dietary requirements, mobility assistance, or electrical support that affects safety. Tell staff about symptoms of illness or a care plan that needs attention.

Keep medication and essential personal equipment reachable. Ask where to store supplies, charge devices, wash hands, and seek help if conditions change overnight. If someone needs an interpreter, large print, or written communication, request it early. Confirm instructions in the form that person can use.

Record the shelter name, address, and the desk or staff role to contact. Let your household contact know where you are when practical. The Red Cross describes shelter services that may include information about local resources and help reconnecting with others. Available services depend on the location and incident, so ask staff directly.

SOURCE KEYS M11 M50

Reduce illness risk in a shared shelter

A crowded shelter can bring people with different health needs into close contact. Use available handwashing facilities and follow the shelter's instructions. Give staff early notice if someone develops respiratory symptoms, vomiting, or diarrhea. They can advise on where to rest, how to obtain care, and what precautions are feasible.

If a household member needs help, assign a consistent caregiver when possible. Keep the person's care supplies together and protect other people from accidental contact with medication, sharps, or contaminated items. Ask about safe disposal and the location of medical support. Use personal protective measures appropriate to the illness and current public-health advice.

Confirm how staff will communicate overnight or if the shelter relocates. Keep the essentials within reach and share the information with the person who will take the next caregiver shift. If someone develops trouble breathing, confusion, or another serious emergency sign, get urgent help and report the symptoms clearly.

SOURCE KEYS M01 M09 M11 M13 M50

Match care needs to shelter capability

A general shelter can be a valuable option for many people. Some people need a different setting because they require care or monitoring that the general site cannot provide. Discuss the possibilities with the treating team and local emergency management before a disaster. Know whether a medical shelter, hospital, or another care arrangement fits the situation.

Give staff a specific description of the need. “Requires scheduled care by a trained helper and backup power for this device” is easier to evaluate than a label alone. Bring the care summary, usual equipment, and contact details. Ask which supplies and services the site can provide and which should travel with the person.

Establish the point at which an ordinary relocation becomes a medical emergency. Call 911 for immediate danger. During routine transfer, confirm the destination can receive the person and arrange transport early enough to account for delays. Share updated instructions with the caregiver and receiving facility.

SOURCE KEYS M01 M02 M10 M11 M50

Check a temporary lodging option

A hotel or host household can provide privacy and a familiar routine during a short interruption. Check conditions before assuming it solves the problem. Ask about current power, heating or cooling, elevator service, potable water, and accessible entrances. Confirm rules for animals and the ability to store any special supplies.

Locate the nearest alternate if conditions change overnight. Review the route from the room to an exit and find out how the site sends emergency messages. If essential care will continue there, check that the device, required supplies, and backup can be used safely. Tell the host about practical needs without sharing unnecessary private information.

Keep a small record of reservations, contact information, and expenses. If the lodging is unsuitable or unavailable, ask local emergency management or the Red Cross about open shelters and other assistance. Use a destination that meets the immediate need and maintain the option to move again if the interruption lasts longer than expected.

SOURCE KEYS M10 M11 M33 M50

Decide when to return home

Wait for official permission to reenter a closed area and check whether the road and building are accessible. Plan to arrive during daylight if practical. From outside, look for downed lines, structural damage, displaced trees, standing water, and other hazards. Arrange professional inspection before entering if there is obvious damage.

A reopened neighborhood may still lack safe electricity, water, sanitation, or medical support. Check current utility and public-health instructions. Keep clear of wet electrical equipment and wiring. If a dangerous condition is suspected, leave and contact the appropriate emergency service or utility from a safe place.

Bring only the people needed for the first assessment and keep others at the verified safe location. Use a written check of access, structure, basic services, and care requirements before moving everyone back. Record what is known and what remains unconfirmed. If an essential service is unavailable, decide whether to extend the temporary stay.

SOURCE KEYS M33 M53

Plan for a second night away

A one-night relocation can become a longer stay when utilities, roads, or staffing remain disrupted. Before settling in for the evening, check how many doses, feeding supplies, clothing changes, and equipment charges remain. Contact providers early about anything you are likely to run out of before the next reliable opportunity to restock.

Update the household contact about the location and expected duration. Keep a short task list for the next morning. Prioritize care arrangements, confirmed transportation, and a usable place to stay. If the current site may close, ask where people will be directed and whether your access needs can be met there.

Record which commitments have been confirmed. A relative's offer of a ride is useful once the pickup location and time are known. If work, school, or childcare plans change, note where official updates will be available. Continue to reassess the home and travel route before scheduling a return.

SOURCE KEYS M01 M08 M10 M33 M50

Test the whole trip without an emergency

Practice one short scenario, such as a lost elevator, a driver who is unavailable, or a destination that closes. Start where the person normally spends time. Retrieve the essential items, reach the pickup point, and identify the first safe arrival location. Give the people using equipment control over how assistance is practiced.

Write down time spent and any step that needed a person, key, connection, or tool you had not planned for. Check whether the alternate works for the same people and equipment. When the plan includes a public service, verify its procedures by phone or on an official site during ordinary conditions.

Pick one change to make now. Move essential supplies closer to the exit, update a contact card, or arrange a second driver. Repeat the drill when the building, household, equipment, or season changes. Keep the most recent plan where any responsible helper can locate it without having to search the entire house.

SOURCE KEYS M08 M10 M11 M33 M54

Amateur Radio for Local and Regional Contact

Start with a radio job

A household radio plan begins with a job. A nearby partner might need to report that a meeting point has moved. A volunteer group might need to tell a shelter which entrance is open. A listener might simply want to hear an official weather warning. Each of those jobs requires a different audience, schedule and way to acknowledge receipt.

Write down the shortest message that would achieve the job. Record who needs to hear it and what the sender will do if there is silence. Those decisions reveal whether an existing broadcast receiver, a direct local radio link or a scheduled amateur net belongs in the plan. One household can reasonably use all three.

A useful first test

- Choose two ordinary locations people actually use.
- Agree on a ten-minute test window and the channel beforehand.
- Exchange a location and a short status report, then have the receiver repeat both.
- Record the results at the actual locations. Include the date and weather if relevant.

A good result describes one link under known conditions. Treat it as one observation in a coverage record. The record is more useful than a manufacturer's range estimate when people need to decide where to wait.

SOURCE KEYS R97 RARRL

Receiving and transmitting are different jobs

An amateur transceiver includes a receiver. A household can use the receiver to learn what ordinary traffic sounds like, hear a scheduled net or verify which repeater is audible. A licensed operator can use transmitting privileges under FCC Part 97 and within the scope of the license and station arrangements.

Listening is a practical way to learn before participating. During a routine net, notice how the control station invites check-ins, how people identify and when a short response is enough. Copy one location, call sign and time. Compare them with a second reception if the station repeats its announcement.

Prepare an operator card

On a card beside the radio, note the station call sign, operator privileges, approved settings and where the local plan is stored. Keep the transmit controls clear when a household member uses the receiver only. If the radio supports a transmit inhibit or a keypad lock, check the documentation for the exact behavior and verify the setting before handing it over.

People can learn the receiver, volume and channel controls in one sitting. Reserve time for licensed operators to practice transmitting separately on an appropriate frequency.

SOURCE KEYS R97 RARRL

Read the FCC rules and band plan together

Start with the FCC rules for privileges, permitted emissions, identification and operating standards. Next consult the ARRL allocation chart for a compact view. Then use the band plan and any regional coordination information to choose a channel suited to the mode. These references answer different questions, and the actual rule takes priority when a chart and text appear to conflict.

The chart can be printed and clipped near the operating position. Save the rule page electronically with the download date. Keep the band plan nearby for the times a temporary station needs to choose a frequency outside its familiar local set.

An operating example

A new operator wants to use FM voice with a partner. Look first for a band segment where both have the required privileges. Choose a frequency suitable for FM simplex and consistent with local practice. Listen for existing use before transmitting. The same process applies after moving to another region, even with identical radios.

Make a small decision tree for common choices. Include who can operate, the permitted band and the intended mode. Mark the records that are snapshots and refresh them periodically while internet access is available.

SOURCE KEYS R97 RBAND RCHART

Direct contact on simplex

In simplex operation, both stations use the same frequency for transmit and receive. A repeater is absent from the path. Range depends on the two antennas, terrain, height, obstructions, noise and equipment settings. Test simplex in each direction, because a station that hears the other clearly may have a different antenna or noise level.

The ARRL lists 146.520 MHz as the national two-meter FM simplex calling frequency. Follow local practice about moving an extended conversation away from the calling channel. A group planning routine calls can agree on a suitable working frequency in advance, after checking privileges, band plans and existing traffic.

What to write down

- The calling channel and a separate working channel when appropriate.
- The time window, time zone and expected duration of a check-in.
- The designated relay station or alternate location if the direct path fails.
- A limit on repeated calls so both stations have time to listen.

A person moving from a basement to a sheltered window can change the path enough to matter. Record locations that worked rather than turning one successful call into a claim about every room or street.

SOURCE KEYS R97 RBAND RREPEAT

Working through a repeater

A typical FM repeater receives on one frequency and transmits on another. The station listens to the repeater output and transmits on its input. The difference between them is the offset. Some repeaters also require an access tone. Record the actual output, offset and tone from the local operator or coordinator, even when radio defaults appear to fill them in correctly.

A repeater on a favorable site can connect two stations that cannot hear each other directly. Both still depend on the repeater, its antenna and its operating power. Linking can expand coverage while the linked sites and their connections are working. It is reasonable to save a simplex fallback with the repeater entry.

An example of a directory entry

A line that lists 146.940 MHz, a minus offset and a 91.5 Hz tone is describing settings for a particular repeater, with 146.940 MHz as the listed output. Verify the correct offset and access details before transmitting. The same output frequency can be reused elsewhere with different access settings.

A useful fallback specifies a frequency and a time. A station needs both to know where and when to listen if the repeater falls silent.

SOURCE KEYS RREPEAT R97

Build a dated frequency directory

A short directory is easier to use at an operating position than a full national database. Keep entries for the area where people actually live, work and travel. Add a few trusted neighboring contacts and regional nets only after confirming the listing with a club, coordinator or net operator.

For each entry, record the frequency in MHz or kHz, mode, direction of offset, access tone, owner and time zone. Give schedules an effective or verification date. If a repeater is linked, distinguish the local site from the wider network. Preserve the source page as a PDF or a local copy alongside the working list.

Sort by operating purpose

Use one group for direct local calls, one for repeaters, one for scheduled regional nets and one for receive-only broadcasts. A working list might have fewer than a dozen entries. An extended file can hold other regions and archived results without crowding the everyday reference.

When a frequency changes, retire the old entry and mark why. If several people use copies, give the new list a revision date and announce it during the next normal check-in.

SOURCE KEYS RARRL RN0NWS RNWR

Understand tones and squelch

Squelch closes the speaker when the received signal does not meet the selected conditions. Carrier squelch responds to a usable signal. Tone squelch also expects a matching tone. A transmit tone may be needed to open a repeater. A receive tone can keep the speaker quiet when unrelated stations share a frequency, while also hiding calls that arrive without that tone.

A tone is an access or filtering setting. The audio on a typical analog amateur voice channel can be received by anyone in range with suitable equipment. Write essential messages as though they might be overheard.

Diagnose quiet reception

Begin with an ordinary station you expect to hear. Confirm the channel and mode, volume, antenna connection and whether receive tone filtering is active. A test with open squelch can help reveal weak or noisy audio. Restore the original setting after the check so the next listener knows what behavior to expect.

If a repeater has announced a tone change, update the radio memory and the reference card together. An entry with the right frequency and wrong tone can look entirely plausible on the display and still fail to open the machine.

SOURCE KEYS RREPEAT R97

Learn the shape of local VHF coverage

Local VHF and UHF coverage often improves with a clearer path and higher antennas. A building, ridge or low spot can weaken a signal in a way that distance alone fails to explain. Urban streets, reinforced buildings, forested slopes and open plains create different paths. Use a neighborhood map to connect what you hear with the terrain and buildings around you.

Do a short receiving survey before a transmitting exercise. Listen at the normal operating position, near a window and at a safe outdoor location. Hold the radio and antenna in the position you would use during an actual call. Repeat a check when another licensed operator is available.

Make the results portable

Record where each station stood, which channel and mode they used, and how reliably each direction was heard. A three-level description such as clear, difficult and unreadable is often enough for planning. Include the route between positions when it can be traveled safely.

A repeatable observation such as clear on the sheltered porch is useful during an outage. A colored coverage circle on a map can look more precise than the available evidence.

SOURCE KEYS RARRL RREPEAT RTOPO

Choose a station you can keep running

A handheld is easy to carry and useful for nearby contacts. A mobile or base station can use a different antenna and a larger power source. Build around the operating task and the equipment you can support, beginning with one radio that is familiar enough to use under pressure.

Make a kit inventory by function. Include the radio, antenna, suitable feed line or adapter, battery, charger or correct power cable, microphone and printed reference card. Label connectors that look similar and write the equipment's voltage and polarity information on a separate card. Read the manufacturer specifications before pairing equipment.

A receiving station deserves its own plan

A basic radio used only for listening may need less power than the transceiver and can stay available while the transmitting station rests. Agree on who keeps the listening watch and how to share a message with the licensed operator.

Set up the equipment during ordinary conditions. Time how long the job takes with the kit exactly as packed. The result exposes small problems such as a cable in a different bag or a battery that fits the radio but has no compatible charger.

SOURCE KEYS RARRL RARES

Antennas and safe placement

A radio station includes the antenna and the path to it. A replacement antenna can change the effective range and operating conditions. Match the antenna to the intended band and installation, following manufacturer information for the antenna and radio. Keep deployment clear of overhead power lines and places where a falling structure could reach one.

Choose a repeatable location that can be reached safely. Consider movement of doors and vehicles, tripping hazards and what happens when wind or rain changes. Allow a safe separation from people based on the station's applicable RF exposure evaluation. The FCC's rules address amateur station RF exposure, and ARRL offers explanatory material for station operators.

Portable decisions

- Choose a place away from overhead wires and routes people need to use.
- Stop setup if weather, footing or clearance makes the task unsafe.
- Keep feed line clear of walking paths or mark it where a crossing is unavoidable.
- Keep antenna, cord and cable identification visible during daylight and darkness.

A station people can erect consistently within its safety limits is useful even if a taller, more complicated layout promises better performance on paper.

SOURCE KEYS R97 RRF RARRL

Inspect the feed line before changing the radio

A station with poor reception or weak transmission may have a disconnected antenna, a loose connector, moisture in a line or a setting that sends the radio to the wrong channel. Start with observations that can be made without transmitting. Look for visible damage and confirm which feed line leads to which antenna.

Before connecting a replacement, check connector type, equipment ratings and intended frequency. An improvised adapter stack can put mechanical stress on the radio jack. Use the radio and antenna manufacturer's guidance for checking mismatch and for any transmitter protection indications. An antenna meter reading alone gives limited evidence about the whole communication path.

Keep an equipment baseline

Record the setup when reception and an ordinary practice contact both work. Include the antenna, cable length or identifier, location, mode and relevant meter readings. If performance changes, alter one variable at a time and note what happened.

Powering down equipment before changing its external connections is a sensible default. Where permanent outdoor wiring or lightning protection is involved, use qualified installation guidance and stay indoors during storms rather than trying to troubleshoot an exposed antenna.

SOURCE KEYS RARRL RRF R97

What HF adds

High-frequency amateur radio can support contacts beyond the distance practical for local FM paths. Signals and paths vary with frequency, time, antenna, propagation conditions and interference. An HF station adds options for regional and wider communication, but its usefulness comes from real contacts and established nets.

Save the times, frequencies, modes and time zones for the nets you plan to listen to. Start with one net that fits your operator privileges and area. Copy its opening and one clearly received message on several days. Note when reception becomes difficult and whether another frequency or time gives a better result.

Plan regional contact separately

An HF net and a local simplex check-in can coexist on one plan. The regional station can relay a message between communities while short-range stations handle nearby coordination. Write down who makes the connection between those parts of the plan. One person might carry a written note to the HF operator or relay it over an available local channel.

Radio propagation gives options rather than guaranteed reach. Practice at the same times you would expect to use the station, and keep a log of both successful contacts and useful failures.

SOURCE KEYS RARRL RNTS RBAND

Plan around variable propagation

A frequency that works in the afternoon may be weak after dark, and a distant station may be easier to hear than a nearby one. HF conditions can shift over the course of a session. Noise, local equipment and the choice of antenna can change the apparent conditions as well.

A small log will show patterns your household can use. Write the date, local time and time zone, band, mode and two or three stations heard. Add whether their speech or code was intelligible and whether reception improved after a known change. Keep a separate line for equipment faults so they do not get mistaken for propagation.

Convert a pattern into a schedule

Choose a primary and alternate listening window with the group. If changing bands is part of the plan, agree on the sequence beforehand. Make the first attempt long enough for a station to identify and finish an existing exchange. When you change frequencies, record the actual change time.

An operator who knows the next fallback will listen there. One who is guessing may be trying a different band just as the first station returns to the original frequency.

SOURCE KEYS RARRL RNTS RBAND

Modes and intelligibility

Frequency and mode both matter. FM is common on local VHF and UHF voice channels. Single sideband is widely used for amateur HF voice. Several bands accommodate other emissions subject to FCC privileges and coordination practice. A station set to the wrong mode may hear distorted speech, a carrier or unintelligible audio.

Keep the mode in the written channel entry. For a scheduled HF voice net, add the sideband designation stated by the net operator. For a local voice repeater, verify whether the intended traffic is analog FM or a compatible digital voice mode. Shared frequencies and mixed-mode equipment can make this a consequential detail.

Reduce avoidable confusion

Speak at a steady pace and keep the microphone at the distance recommended for the radio. Pause between groups of letters or numbers. If a receiver reports difficulty, ask which part failed and repeat that part before altering power or other settings.

Practice a brief message with a partner and compare what they wrote to what you sent. An accurate read-back is better evidence than an informal report that the signal sounded loud.

SOURCE KEYS R97 RBAND RARRL

Keep station energy predictable

An amateur station consumes energy while receiving, and transmitting generally changes the load. Measure or estimate the actual receiving and transmitting pattern before planning how long a battery will last. Use the radio's specifications for supply requirements and a meter suitable for the circuit if you make a measurement.

Write down how many listening minutes and transmitting minutes a realistic shift includes. Count charging and conversion losses in the energy plan. Set a point at which you move to short check-ins and spend more time listening between them. The goal is to keep the station available through the periods when traffic is expected.

A power record

List the battery identifier, charger, time of the last charge and any issue seen during use. Record whether the equipment could still transmit normally as the battery ran down. Use fusing and cables approved for the intended equipment and keep unused terminals protected from shorts.

The applicable amateur rules call for using the minimum transmitter power necessary to carry out the communication. Familiarity with the station and a practiced contact path help make that workable.

SOURCE KEYS R97 RARRL RRF

Program a short set of memories

A radio memory can store settings for a planned channel. A well-organized group of memories saves time when an operator needs to switch between a direct call, a repeater and a receive-only broadcast. The display label should reveal the role of the channel with the fewest characters that remain clear.

Before loading settings, preserve a copy of the radio's existing configuration if the equipment and software support it. Obtain channel data from the local coordinator or operator and verify unfamiliar settings before use. After loading, inspect the actual radio display and verify the receive behavior.

Make a second way to reach the channel

A printed quick sheet can show the memory number, label, frequency, mode and whether transmitting is permitted. Add instructions for the common tasks on that particular radio, such as changing banks or disabling a scan. Use your own notes and the maker's documentation for the controls.

Keep the saved configuration and the sheet together. Label both with the same date and test one representative channel from each memory group after every revision.

SOURCE KEYS RARRL RN0NWS R97

Use the correct radio service

The FCC treats amateur radio, Family Radio Service and General Mobile Radio Service as separate services. Equipment rules, operating privileges and licensing arrangements differ. Choosing a familiar channel name on a radio display does not establish that the radio and operator can use it under the rules of that service.

A household with one amateur license holder may also have relatives using equipment intended for other services. Make each device's purpose clear. A labeled kit can say which radio is for broadcast reception, which is for family contact using its authorized service and which is for the licensed amateur station.

An inventory that prevents confusion

Write the service name and expected channel on the case or card. For a licensed service, make the applicable station identification information and operator responsibilities available to people allowed to operate it. Note what can be done with the radio in ordinary use and test that task under ordinary conditions.

When the objective is a one-way warning to a household, a receiver may be the appropriate device. When people must acknowledge information, plan a link and operating arrangement that supports two-way traffic.

SOURCE KEYS R97 RFRS RGMRS

Keep a contact schedule that people remember

An agreement to call every so often leaves room for two people to wait at different times. Write a simple schedule with the local time, time zone, duration and the channel to monitor. Add a fallback window and make the expected response plain. Align it with times people can realistically stop work and get to the station.

For example, two operators might make their primary contact after supper and move to a previously arranged alternate window only if the first attempt fails. Both should understand whether they are to keep listening, move to another channel or wait for the next window. They can practice the move before depending on it.

Keep the operating burden small

A brief status message can contain a name or call sign, a location already understood by the group and one item that needs action. Use a net or relay station when the contact plan requires more than the household can handle directly.

When the schedule changes, record who received the update. A switch to a new channel is complete only when the intended users have a chance to hear and acknowledge the plan.

SOURCE KEYS RARRL RARES RNTS

Test a radio plan without an outage

An ordinary evening is a good time to practice the operating sequence. Give each participant a channel card, a scheduled time and a message with a location and an exact quantity. Begin at the usual operating position. Include a second path if the first call fails or the receiver cannot copy the details.

Tell people the exercise is practice. Use authorized equipment and follow the local operating procedures. Avoid language that sounds like a real request for help, and choose a frequency and time that leave established traffic clear. End the exercise on time so the group can compare records.

Compare the records afterward

- Did the receiver copy the correct time, location and quantity?
- Did both stations know when to move to a fallback?
- Could a different licensed operator use the memory list and antenna safely?
- How long could the tested power arrangement sustain the intended schedule?

Keep the results beside the channel list. Correct any confusing memory label or instruction while the experience is still fresh. A small improvement tested twice is stronger than a more elaborate plan left untried.

SOURCE KEYS R97 RARRL RARES

Alerts Broadcasts and Verification

Build a listening plan in layers

A useful listening plan can receive an interruption, provide context and keep the information available for the next person. These tasks can be divided among several sources. A weather radio may sound a warning. A local broadcast station may explain which roads are open. A written note may keep the key facts visible after the receiver goes back to standby.

Start with the kinds of disruption that affect the area. Look up the local alerting authority and the NOAA Weather Radio transmitters that serve the area. Save the local radio stations people can actually hear. Record which outlets have a known role in official alerts and which carry local news.

Plan for different failure modes

List one source that works with the mobile network, one that receives an over-the-air broadcast and one way to share information among nearby people. Test the broadcast option without internet access. Write the listening schedule where everyone can find it.

During an interruption, move through the sources in the order already planned. If one source is quiet, note that observation and continue. The household can then distinguish a silent channel from a missed check.

SOURCE KEYS RNWR RREADY RIPAWS

NOAA Weather Radio channels

NOAA Weather Radio uses seven frequencies. In MHz, they are 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, and 162.550. Tune by frequency because channel numbers can vary by receiver.

Choose and test a station

Use the National Weather Service listing to find the stations that serve your area. Listen from the place you will use the receiver. Test a second station that also covers your area. A clear signal and correct alert settings both matter.

Make a local listening card

County and state _____. Primary call sign and MHz _____. Alternate call sign and MHz _____. Local SAME code(s) _____. Receiver location and test date _____.

Check alerting separately

Use a weather-band receiver. A standard AM/FM radio needs a separate weather band to receive these frequencies. A scanner or amateur transceiver may receive the broadcast without providing the automatic alert features you need. Test your chosen receiver on backup power and confirm that the intended alert can be heard where people sleep.

See also Receiver settings and tests, pp. 258–261, and Local broadcasts, p. 263.

SOURCE KEYS RNWR RNWRS RNWRM

Area codes and receiver settings

Weather radios with Specific Area Message Encoding can use geographic codes to select which alerts sound. The transmitting station and the geographic code are separate choices. A strong signal is useful only if the programmed area matches the coverage and warning information you need.

Start with the National Weather Service source for the county and the receiver's instructions. Write down all configured areas and mark the home area as primary. Add another county when you have a clear reason, such as a family member working there or a route used often. Extra areas can produce additional alerts that demand attention.

Make changes deliberately

If someone moves the receiver to another county, verify both the station and the codes. After a change, check the display and compare it to the written card. Learn how the device signals a test and how to turn the alarm volume up or down.

Some radios let a user filter types of events as well as areas. Review any filters already set on a used receiver. A working speaker and a clear broadcast do not by themselves establish that the device is configured to wake people for the right warning.

SOURCE KEYS RNWR RNWRM RNWRS

Test that a warning can be heard

A good receiver position supports reception and makes the alert audible to the people who need it. That may require a compromise. A receiver near a window can sound weak in a closed bedroom. A device on a nightstand may have poor signal there. Test the arrangement before relying on it overnight.

Use the receiver's built-in test or a scheduled system test when available. Check at the volume, room position and door configuration you normally use. If someone needs visual, vibrating or louder notification, include that person in the test. Write down any part of the plan that requires a second person to respond.

Check both power paths

Run the receiver on its normal power source first. Then verify that it works on the intended backup. Read the battery status indication and inspect the actual spare batteries. Check whether loss of power resets the station, time or alert settings.

A successful exercise ends with a person noticing the signal and correctly saying what it means. A quiet indicator light proves less about how the system works for the household at three in the morning.

SOURCE KEYS RNWR RREADY RNWRM

Find a useful spot for the receiver

Signal quality can change from room to room. A metal cabinet, building materials, neighboring equipment or a poor antenna position may make one spot difficult. During normal service, move the receiver gradually while listening to the same station. Record where the words remain clear enough to copy without guessing.

Check the effect of ordinary activity. A location might work when machinery is off and become noisy when a charger or other equipment is running nearby. Move the receiver and its antenna rather than opening or modifying unrelated equipment. Refer to manufacturer instructions for any external antenna connection.

Preserve the result

Note the position, station and type of antenna that worked. A line such as north upstairs window, receiver on shelf gives another person something they can reproduce. If that location is inconvenient overnight, identify a way to place the receiver nearby without making its display or speaker inaccessible.

A familiar weather station is a useful test signal because it carries regular programming. During an outage, compare today's reception with the baseline before deciding that the transmitter or receiver has failed.

SOURCE KEYS RNWR RNWRS RARRL

Interpret a silent channel

Silence can mean many things. The transmitter may be off the air, the receiver may be on a different station, or local noise and weak signal may be hiding the broadcast. It can also mean no station is speaking at that moment. Treat silence as a reason to check the plan rather than as information about safety.

Start with the checks you can make in place. Confirm power, antenna, volume and channel. Compare the device with a second receiver if available. Move to the next previously tested station or source. If internet service remains available, the weather radio system lists outage information and contact routes.

Write the result precisely

A line such as no audio heard on station A between 18:10 and 18:20 says what happened. A line that says all alerts have stopped adds a conclusion the observation cannot support. Use the same care with a station that seems to be repeating an old message.

Keep the first observation and the later outcome in the log. A change from silence to ordinary programming may show that the channel became available again without telling you why it was quiet.

SOURCE KEYS RNWR RNWRS RREADY

Wireless Emergency Alerts

Wireless Emergency Alerts deliver short official messages to compatible mobile devices through participating cellular providers. They are one way people may receive urgent warnings about conditions in or near an area. The actual device, settings, network and local coverage affect reception.

Check which alert categories the household devices support and how to find recent messages. Test that important notification sounds or accessibility features can be noticed under normal settings. Save local alert subscription information while connectivity is working, since a county or city may provide updates through separate systems.

A short message can require follow-up

Write down the issuing agency, event, area and expiration time from the message. Take the directed immediate action when applicable. Use a known official source for additional detail as soon as conditions allow. A brief message may omit landmarks, alternate routes and the next update time.

A family member outside the affected area might get different messages. When sharing one, preserve its location and time. That information helps the recipient tell whether the warning concerns their current position or a route they planned to use.

SOURCE KEYS RIPAWS RWEA RREADY

EAS and local broadcasts

The Emergency Alert System can carry alerts through radio, television and other participating systems. A local broadcast station may also provide original reporting between formal alerts. Save a small AM and FM station list along with notes about which signals are clear in the places people use.

Check a station's normal name, frequency and coverage before writing it on the card. A frequency may carry a different station after travel, and distant AM reception can change at night. Record the names a station uses to identify itself so a listener can recognize it.

Separate the alert from the report

An official warning may be followed by a news report or an announcer's interpretation. Record the issuer and exact status of any directive that affects decisions. Mark a reporter's account as such, especially when the station is quoting a second source or describing an unconfirmed development.

During an outage, preserve enough power for later listening. If there is no need for continuous monitoring and no automatic warning function is in use, a planned check-in period can help keep the receiver available for the next update.

SOURCE KEYS RIPAWS RREADY RNWR

Who issues the instruction

A reliable report includes the source of the instruction. Weather warnings may come from the National Weather Service. Evacuation, shelter and access notices may come from a state, local, tribal or territorial authority with responsibility for the incident. Transportation and utility agencies can supply information about the systems they operate.

Before an outage, save the public pages for agencies that serve the area. Include a radio station or other channel they routinely use. Learn how the public-facing name appears in alerts. For a traveler, collect this information for the destination rather than carrying assumptions from home.

Ask what the source actually controls

A transit agency can report a service suspension. A transportation agency can announce a road closure. A nearby observer can report a barrier or a flooded segment. These statements are useful for different purposes. Keep the observed condition distinct from the agency's instruction.

In a fast-moving emergency, follow an applicable immediate safety directive first. Confirm details such as the affected boundary and next update once conditions permit. An official page saved before the event is a directory for finding later messages, while the live instruction has its own date and time.

SOURCE KEYS RIPAWS RREADY RWEA

Watch, warning and advisory

A weather watch generally signals that the relevant hazardous conditions are possible. A warning signals a hazard that is occurring, imminent or likely enough to warrant action under the issuing product. Advisories communicate conditions that may cause significant problems at a different threshold. Exact terms and responses depend on the hazard and the agency that issued the message.

The key is to save the full message when possible. It describes the area, timing and protective action more precisely than a single word. Ask which location is affected and whether the activity you planned is inside that area or moving toward it.

Set a response by product

A watch can prompt a household to check supplies, reconsider travel and agree on where to receive the next update. A warning may call for immediate protection. Learn the relevant actions for the hazards common in your area and practice them beforehand.

A warning end time is a property of that particular message. Conditions and official instructions can change before or after that time. Check for extensions, replacements and follow-up information rather than using the first message as the whole incident record.

SOURCE KEYS RWW RREADY RWEA

Draw the alert area on a map

Place information can be hard to hold in mind while a message is being read aloud. Keep a regional map near the radio and draw or mark the places mentioned. Start with county names, roads, rivers, town boundaries and any clearly named landmarks. Mark the household and relevant routes with a different symbol.

A weather product may define a warning area more precisely than a whole county. An evacuation notice may use zones, street boundaries or landmarks. Use the authority's map or exact written boundary when available. When only a partial radio message was heard, mark the outline as approximate.

Preserve where the information came from

Write the issue time and source next to the sketch. Add the next update time or expiration if it was included. When a new message changes the area, preserve the older outline lightly and label the newer one clearly.

Do the exercise with a saved example before an outage. A household member who can locate the usual destinations and two alternate roads on paper will be better prepared to interpret a place name heard once in a noisy room.

SOURCE KEYS RWEA RIPAWS RTOPO

Keep updates in chronological order

Two reliable sources can appear to disagree because their messages refer to different times. Record an issue time, effective time and expiration if the message provides them. Also record when the household received it. A forwarded screenshot can show the original message clearly while arriving much later.

Set a convention for time zones. Write the zone next to times heard from outside the local area. If an agency uses local time and a radio operator uses UTC, keep both labels in the log or convert one and record the conversion. Be careful around midnight and seasonal clock changes.

A simple three-line history

An alert was issued at 17:10. A revised boundary was issued at 17:35. A relay of the first alert was heard at 17:50. The second announcement governs the later boundary if it is the applicable official update, even though the first version arrived again afterward.

Keep older entries for context and mark the current one prominently. This approach helps when a station repeats a public message while a neighboring office publishes a fresh version for a different area.

SOURCE KEYS RIPAWS RWEA RICS

Save a report with its context

A saved screenshot can be useful if it includes the originating agency, issue time and place. A cropped image that shows only a striking phrase may lose the details needed to use it responsibly. Keep the source address or station identification beside the file.

If the report is audio, make a short written note while listening. Include the words that establish what people are being asked to do. Use quotation marks in your own log only when you know you copied the words exactly. An approximate summary can be labeled as such.

Keep the current item accessible

Give saved reports a date and short descriptive filename. Put material that still needs verification in a separate area from current verified notices. A paper note should make the same distinction with a label.

A report about an earlier storm can look relevant on a disconnected device because it may be the newest file available locally. The filename and issue time give the reader a way to tell a reference from an active notice. The practice works equally well for utility notices, road information and weather warnings.

SOURCE KEYS RIPAWS RWEA RICS

Verify a consequential claim

A claim about closed roads, contaminated water or a changed evacuation boundary deserves a source with relevant authority. Ask who issued it, what area it applies to and when it was published. Use a public contact or channel you already know when you can reach one.

Record exactly what has been verified. A posted closure notice may verify the status of one segment without answering whether a parallel road is open. A report of traffic stopped in both directions says what the observer saw at a particular time. Keep enough context for someone else to evaluate the conclusion.

Check another path if needed

If two accounts conflict, compare their dates and boundaries. Look for an agency update that supersedes one of them. If confirmation remains unavailable, label the point unresolved and identify a reasonable time or channel to check again.

Avoid filling missing details from memory. A similar announcement from an earlier event can supply context for a question, but today's action needs today's evidence. The written record makes it easier to update a claim when official information arrives later.

SOURCE KEYS RREADY RIPAWS RICS

Report what you observed

Direct observation and inference are different kinds of information. A person standing near an intersection can report a visible obstruction and its exact location. That person may be unable to tell how long the obstruction will last or whether officials have designated an alternate route.

When passing an observation, include time, location and the viewpoint from which it was made. Say what changed if you saw the change yourself. Keep estimates clearly labeled. Use ordinary words with a precise place name and give the receiving station a chance to ask questions.

A better observation report

A volunteer sees a barrier at the west end of a bridge at 08:20. The report can say the barrier was present and that westbound traffic was turning around. A separate sentence can say the volunteer did not hear a reopening time.

Weather spotter programs likewise value clear reports of conditions actually observed. Follow the local program's reporting procedure if you participate. Stay in a safe location while gathering or relaying information, and move first if official protective instructions apply to your position.

SOURCE KEYS RSKYWARN RICS RREADY

Relaying information inside a household

Someone may hear an alert while the rest of the household is asleep, outdoors or working in another room. Decide how that person will pass on information before it happens. A direct announcement, a note in a known location and a planned contact window can serve different needs.

Keep the first message short. Include who issued it, where it applies, the time and the next action. If action is urgent, say it first. If an older child or another adult is the next relay, ask for a read-back of the detail most likely to be missed.

Keep responsibility visible

Someone can listen for updates while someone else prepares to move or checks on a neighbor. Write down who is doing what so tasks do not silently get assigned twice. Keep emergency calls with the designated contact whenever that arrangement works.

When the alert changes, update the same note or clearly mark the old one as superseded. An erased time or a sticky note moved to another room can become a source of confusion. A dated update makes the change visible to everyone.

SOURCE KEYS RREADY RICS RIPAWS

Keep enough power for another update

Broadcast monitoring may be needed for hours. Make a plan for listening that fits the expected power supply, and keep the time of the next check visible. Include a battery-powered receiver that is already tested and a way to record the result without leaving another device running.

For a receiver intended to sound automatically, keep it in the alert mode and test its power arrangements. For a receiver used only for scheduled information checks, note how to set the volume and frequency quickly. Practice switching to the backup source without losing the settings you rely on.

Decide what justifies continuous monitoring

An active hazard, a live directed net or a scheduled reopening update may deserve a listening watch. During a quieter interval, set an appropriate next check and leave the receiver ready. One person can handle monitoring while another handles tasks that require more attention.

Record silence when it is meaningful to the plan. A missed update should lead to the next available source, not to unplanned consumption of the entire reserve while one channel remains quiet.

SOURCE KEYS RNWR RREADY RIPAWS

Rehearse the alert chain

A household exercise can begin with a recorded or fictional practice warning. Mark it as an exercise throughout. Give the listener a short location, time and requested action. Use a paper map and the same notebook you expect to keep near the radio.

The next person should copy the important details and explain which source they would check for an update. Ask the person responsible for an alternate receiver to tune a known station or simulate the switch. Include at least one deliberately missing detail, such as a reopening time, and see how the group records it.

End with a specific improvement

Compare the record with the practice message. Check whether the date, location and source survived the handoff. See whether everyone noticed which areas were affected. Find out if a night-time or accessibility accommodation would work as planned.

Change one item while the test is fresh. You may move the receiver, enlarge a frequency label or add an alternate map to the same envelope. Schedule a short retest so the improvement becomes part of the routine.

SOURCE KEYS RREADY RNWR RICS

Plan for places outside your county

A household's alert plan can extend beyond the county where people sleep. A work site, school, care facility or frequently used road may lie across a jurisdictional line. Write the place names and their jurisdictions down in advance so an alert for a neighboring area can be interpreted quickly.

Use an official map to check the boundary and save the relevant public information sources for each place. A single National Weather Service office can cover several counties, while local evacuation and shelter directions may come from separate authorities. Keep the sources together by destination rather than expecting one county page to speak for an entire trip.

Put travel information on one sheet

- Record the destination and a place where it can be located on a paper map.
- Note the counties or zones along the normal route.
- List which station or agency can provide updates for each segment.
- Add a place where a traveler can wait safely if the next segment closes.

Update the sheet after a move, job change or change in regular care arrangements. The exercise is particularly useful when family members use different names for the same place.

SOURCE KEYS RNWRS RIPAWS RTOPO

Messages Nets and Logs

Prepare the message before calling

A brief radio call is easier to copy when the message is already written. Put the recipient, sender, time, location and requested action at the top. Use one statement per line if the message contains several quantities. Leave room to add the receiving operator and the delivery time.

Choose the purpose first. A situation report tells the recipient what happened. A request asks the recipient to do something. A welfare message may simply pass along a person's status. When the purpose is clear, the receiver can repeat the parts that matter and recognize whether an answer is needed.

Build a practice message

One volunteer is at the north entrance of a community center at 10:20 local time. The entrance is temporarily closed, and the volunteer asks the group to use the signed east entrance until the next update. Write that as an exercise before transmitting it.

Check that the message tells a person what to do and where. If it needs an answer, include the question. Keep a copy until you know the intended recipient got it.

SOURCE KEYS RICS RNTS RARES

Listen to the net control station

A directed net uses a control station to manage who speaks and when. The control station may collect check-ins, sort traffic and send two stations to a suitable working frequency. Listen long enough to recognize the net's current procedure before joining.

The controller may request stations in a certain order, perhaps by call sign or purpose. An operator with no traffic can say so when invited. If a group has traffic to pass, the controller can determine whether the main channel is appropriate or whether the exchange should move.

Prepare what you need before speaking

Write your call sign, location if requested and the kind of traffic you have. Keep the actual message and its destination available. Make a note of any secondary frequency assigned and repeat it if there is a risk of misunderstanding. Return to the main net according to its practice when the traffic is complete.

During established traffic, maintain a listening watch. Direct operations use the channel more effectively when participants let the control station finish instructions and keep replies short enough for the next station to enter.

SOURCE KEYS RARES RNTS R97

Check in with a purpose

Check-ins help a net know who is available and where traffic can go. Listen first, wait for the invitation and follow the procedure given by the control station. A check-in can be brief even if the planned message is long. The first exchange only needs enough information to assign the next step.

If you represent a group, be clear about your role and what you can actually report. If you are available for relay, give the location or capability the net requests. Avoid giving unnecessary private information in a routine check-in.

Keep a copy of the assigned task

If the controller gives you an assignment, write the who, where, when and channel. Repeat the details most likely to be confused. After moving to a new frequency, allow enough time for the other station to tune and listen for existing use before calling.

If there is no response, follow the previously stated return or fallback procedure. Keep track of whether an assignment was received, attempted or completed. A station that checked in earlier may have gone off duty before a later request reaches it.

SOURCE KEYS RARES RNTS R97

Identify the station clearly

FCC Part 97 sets amateur station identification requirements. Under the general rule, the call sign is sent on the transmitting channel at the end of a communication and at least once every ten minutes during a communication. Check the rule for details and applicable exceptions. Personal names or informal tactical labels can assist local coordination, while the station still follows its identification obligations.

At the operating position, keep the call sign legible. Practice saying it at the speed used in ordinary speech. With weak or noisy audio, standard phonetic words for letters can help a distant listener copy the call accurately. Repeat it when asked.

Distinguish a role from a call sign

A volunteer might be working at a site known as the east desk. That role tells nearby listeners who is handling the task. The call sign identifies the station. Keeping both on the log helps when different licensed operators handle the same role on different shifts.

If a partner is unsure whether they copied a character, send the relevant character again and verify the complete call sign. This saves time if a later relay needs to contact the station.

SOURCE KEYS R97 RNTS

Use language that travels well

Plain language works when stations have different backgrounds. Use the ordinary term for the thing being described and spell a name if it can be confused. Say the requested action explicitly. Familiar local shorthand may be clear to one group while sounding like a different place or instruction to a relay station.

Avoid long strings of conditions. Divide the message into parts and pause at places where the receiver can request a repeat. If something sounds important and unfamiliar, give a brief description, such as the east entrance facing the school parking lot.

Keep the original meaning visible

When relaying a prepared message, preserve the sender's meaning and record any uncertainty. If the sender said that an area was being inspected, leave that status intact. An inspection is a different fact from a closure or an all-clear.

Repeat a message in smaller pieces when reception is poor. Two short exchanges can be easier to copy than a single long one. Make the actionable line the easiest part to identify in the written record.

SOURCE KEYS RICS RARES RNTS

Handle numbers and times deliberately

A number can change a response even when the rest of a message is copied perfectly. Break strings of digits into understandable groups. Say the unit, then ask for a read-back of an important quantity, channel, address or time. If a destination has both a street number and a room number, label each in speech.

Give the time zone when two locations might use different clocks. Keep the date with a time near midnight. Write whether a time refers to the original event, the message issue or an expected future update. These can all appear in the same message.

A correction that can be acted on

If the receiving station repeats the wrong time, correct that element explicitly and request the revised read-back. It is easy to agree that a message was received while an incorrect number survives in the receiver's notes.

For routine practice, have another person write an address and quantity that you transmit without showing them the original. Compare the record after the exchange. Change the pace or the grouping only where the exercise shows difficulty.

SOURCE KEYS RNTS RICS RARES

Give urgent traffic the right path

In an immediate danger, contact 911 or the applicable local emergency service by an available path. A volunteer radio net may be able to relay information, while the relay itself still needs a way to reach the responsible service. Learn the local arrangement in advance and keep it beside the radio.

On a directed net, state that you have urgent traffic according to the net's procedure and wait for the controller's instructions when the situation permits. Include the exact location, the immediate problem and the best way to reach the person who can provide further details. Keep the message focused on facts useful to the response.

Track delivery

Ask which station has taken responsibility for forwarding the message. Record when it was received and whether the intended public safety service acknowledged it. A relay station hearing you is one stage in the path.

Keep routine traffic out of the way while urgent communication is in progress. When the situation changes, update the same path if possible so that the person handling the request receives the correction.

SOURCE KEYS R97 RARES RNTS RREADY

Phrase a request someone can fulfill

A request can get delayed when the receiver has to guess who needs what or how soon. Specify the item or action, location and time. Include a return route for the reply. In a coordination group, identify who owns the decision or has authority to approve the request.

For example, a neighborhood check-in station may need someone to verify whether a community center is open. The request can ask for the posted opening time and whether the east entrance is accepting visitors. The receiver can report those observations and the time they were made.

Mark the response you need

A simple receipt confirms the message was copied. A commitment means the person intends to perform a task. Completion means the task was carried out. State which result you need and when it is useful.

Keep requests and observations in different places in the log or use a visible status label. A question waiting for a reply can otherwise look like a confirmed fact after another operator reads it later. Close the request only when the expected response arrives or the plan changes.

SOURCE KEYS RICS RNTS RARES

Receive a message without guessing

Set up a writable surface and a short form before monitoring. Write down the sending station and time at the beginning when you can. If the sender moves quickly, mark gaps with a visible blank instead of filling them with what you expect to hear. Ask for a repeat of the missing part.

At the end, confirm the addressee, location and any number that affects the action. Read back the message or its critical details depending on the procedure in use. Save the original copy until the message has been delivered, including any later correction.

Keep incomplete messages separate

If the signal disappears before the message is copied, mark it incomplete and record the attempted follow-up. A later station may be able to obtain the missing information. An incomplete message can still preserve a valuable place name or contact route, provided its status remains visible.

Hand off a clear copy when another person must carry the information forward. Use the same message identifier if the net assigns one. The receiver's handwriting and the original transmission should remain distinguishable in the record.

SOURCE KEYS RNTS RICS RARES

Use read-back where errors matter

A read-back compares what the receiver copied with what the sender meant to send. It is especially useful for street numbers, dates, supply counts and channel changes. Agree on which fields need to be repeated if time on the channel is short.

A concise sequence works well in practice. The sender states the important detail. The receiver repeats the detail aloud. The sender confirms it or corrects it. A simple acknowledgment still has a role when the task is routine and the information is already clear.

Give a clear correction

If an operator says the west gate instead of the east gate, identify the field being corrected and say the intended word clearly. Ask the operator to repeat the revised location. Write the correction in the log if the earlier value has already been passed to someone else.

Do not assume that loud audio guarantees accurate copying. The mistake may come from an expected name or a transposed number. A brief comparison can prevent the receiver from carrying a plausible but incorrect detail to the next station.

SOURCE KEYS RNTS RICS RARES

Preserve the message through a relay

A relay receives a message and passes it on to another station or recipient. Keep the original sender, issue time and intended destination with the text. Add your own station and relay time separately. A recipient should be able to tell when the information was created and who passed it along.

If the next station asks a question, identify whether you can answer from the original message or need to contact the sender. Make your own observations in a separate sentence. That separation matters when a report changes as it moves through several stations.

Plan a return route

The sender may need to hear whether delivery succeeded. Write down which station will confirm delivery and how the confirmation will reach the originator. A relay can mark the message as accepted while a recipient remains unavailable.

During practice, use three stations and send a short message containing a location, number and time. Compare what the first and last stations wrote. Correct the handoff step where the meaning changed before repeating the exercise.

SOURCE KEYS RNTS RARES RICS

Keep an operating log

An operating log records what the station did, including messages received, assignments made, equipment changes and periods when the station was unavailable. It is useful to another operator taking over a shift and to the group reviewing an exercise. Record local time with the zone or use UTC consistently.

Use the shortest notation that can be understood later. A one-line entry can identify the other station, message number, action and status. If a full message is on a separate sheet, write its identifier instead of copying the whole text again. Keep routine activity separate from matters that require follow-up.

Capture useful absences

A failed contact can help the next operator decide what to try. Record the channel, times and stations attempted. If the cause is unknown, leave it open. An antenna fault discovered later can be added as a dated correction.

At the end of the shift, summarize outstanding requests and the next scheduled activity. A person arriving later should be able to see what remains to be done without reading every earlier entry.

SOURCE KEYS RICS RNTS RARES

Read a communications plan

FEMA's ICS 205 Incident Radio Communications Plan is used in incident management to document radio assignments. A household can keep a plain-language card for its own arrangements, while an organized incident may use the official form or its own approved equivalent. Follow the communications directions given for the assignment.

A channel line can identify a function, channel name and settings. Read the whole line. A label that sounds familiar may have a different meaning in the current incident. Confirm questions with the assigned communications lead and avoid moving to an unassigned frequency on an official task.

Know which version applies

Save the issue date or operational period with a copy of the plan. An old plan may be useful for training while its settings or responsibilities differ from those in use today. Keep the current assignments in one place and mark earlier versions as superseded when appropriate.

If you are practicing at home, use a compact card with the same habits. Put the purpose, time and authorized channel together. Check that another person can read it without relying on local memory.

SOURCE KEYS RICS R97 RARES

Use a general message form

FEMA's ICS 213 General Message form is designed to carry a written message and a reply in an incident setting. Download a clean copy for a reference folder, and use the version requested by the agency or group you support. A simple household note can use similar fields without representing itself as an official incident record.

Start with the people or roles sending and receiving, a subject, date and time. Give the body enough space to preserve the request or observation in plain language. Write any reply in its proper place and keep the response associated with the original message.

Use a form that fits the job

A written message helps when a person needs to follow a request through several handoffs. A quick verbal acknowledgment may be enough for a routine check-in. The form is most valuable when the message needs delivery, a recorded reply or later reconciliation.

Before an exercise, print a few copies and leave them where operators can reach them. Practice filling a message in ordinary handwriting, then have another person read it back without prompting.

SOURCE KEYS RICS RARES

Use an activity log for a shift

FEMA's ICS 214 Activity Log records significant activity across an operational period. It serves a different role from a single-message form. An activity log can show which assignments changed, when a resource arrived and which issues remained open when an operator left.

For a small group, a dated notebook may be sufficient. Put the shift or operational period at the top. Use separate lines for time and activity, and give enough detail for another person to identify any related message. Keep a copy available to the person taking over.

Summarize the handoff

Record completed tasks, pending requests and the next scheduled check. Note where supporting messages are stored. If an activity was canceled or handed to another team, record that change so the next operator does not duplicate it.

An activity log is useful even when the day was quiet. It can show that the station monitored a channel during a planned window and heard no traffic, which is different from finding no entry and being unable to tell what happened.

SOURCE KEYS RICS RARES

Learn where radiograms fit

ARRL's National Traffic System offers procedures for exchanging formal messages between stations. A radiogram preserves message information as it moves through networks and relays. A local group can learn that format through the regional traffic net or ARRL's training resources before relying on it during a disruption.

The format gives common places to record the originating station, destination, message text and other handling details. Practices for writing and relaying formal traffic may differ from ordinary conversation. Follow the instructions of the net and practice using a short, unambiguous example.

Choose a suitable traffic path

A structured relay is useful when a message must travel through several stations. A direct contact may be simpler when the intended recipient is already reachable. An urgent life-safety problem needs the fastest available route to the appropriate response service.

Save the net schedule, the group's reference for message handling and one exercise you have already completed. A familiar worked example can help an operator recognize what needs to be copied when another station sends formal traffic for the first time.

SOURCE KEYS RNTS RARES R97

Plan for messages that can be overheard

Assume that routine amateur voice traffic can be heard by other receivers in range. Choose details that allow the task to be completed while keeping unnecessary personal information out of the exchange. A role, a meeting point or a task number may be enough for coordination already understood by the group.

Follow FCC rules on amateur communications, including restrictions on messages encoded to obscure their meaning. When a message requires sensitive information, use an appropriate authorized path and follow the procedures of the organization responsible for it. Avoid attempting to make amateur voice traffic private through improvised codes.

Keep recordings and logs proportionate

A log can show that a contact or relay occurred without preserving every detail about an individual's circumstances. Give access to the people who need the record for the work. Store contact directories separately from general reference material distributed to others.

Before a drill, review the practice messages and use fictional names or numbers when they are sufficient. Operators can learn how to send accurate information while keeping the exercise easy to share.

SOURCE KEYS R97 RARES RICS

Correct the record visibly

A correction is easiest to use when it identifies the old detail and gives the replacement. State which message is being corrected, when the change took effect and who supplied it. Leave a clear trace in the log when the earlier version may already have been passed onward.

If the change affects immediate action, call the person or station responsible for the action and ask for a read-back. Update the copy at the operating position after confirmation. If several groups received the old information, track which ones have acknowledged the replacement.

Avoid silent edits

Cross out an outdated paper entry so it remains legible and write the new value beside it. In an electronic log, a dated update can serve the same purpose. A reader later can see that an instruction changed and when the group learned about it.

Make the current item easy to identify. Filing a correction where nobody can find it is similar to issuing it on a channel nobody is monitoring. Keep active changes visible until the affected work is complete.

SOURCE KEYS RICS RNTS RARES

Drill the handoff between shifts

Set up an exercise that lasts two short shifts. During the first, send a practice message, record a reply and make one change to the operating plan. Give the second operator only the documents and notes that would be available in a real handoff.

The second operator should be able to find the current channel, next scheduled contact and any undelivered message. Include a clear marker that all content is for practice. If you transmit over the air, use authorized stations and keep clear of established traffic.

Measure what the record preserved

- Compare the outgoing message, receiver's notes and final delivery report.
- Check whether a correction was visible and reached the intended recipient.
- Look for time zones, missing statuses and duplicate assignments.
- Count how often someone had to ask the outgoing operator a question that the log could have answered.

Fix the first confusing part of the handoff rather than adding several new forms. A short checklist, a clearer folder label or one agreed meaning for the word delivered can improve the next shift immediately.

SOURCE KEYS RICS RARES RNTS R97

Maps Routes and Offline Navigation

Choose maps for the decisions you make

Different maps answer different questions. A state road map shows how major routes connect. A city inset helps locate cross streets. A topographic sheet shows the shape of the terrain and can help explain why a radio path fails or a route climbs more than expected. An official closure map describes a particular incident and should keep its issue time attached.

Build the map set outward from places you actually use. Include the immediate neighborhood, a regional travel area and the roads leading to any agreed destination. Add adjacent counties or states when travel routinely crosses a border. Choose a scale that lets you read both the street names and the wider route when needed.

Organize by task

Keep an overview sheet for planning and detailed sheets for the places where decisions occur. A bridge, turnoff or large complex can be clearer on a single local inset than on a wide state map. Add an index that tells the reader which sheet to open.

A few tested maps can answer more urgent questions than a large folder with unclear filenames. Print the maps likely to be needed first.

SOURCE KEYS RTOPO RTOPOGET RNPS

Download USGS topographic maps

The U.S. Geological Survey distributes US Topo maps and historical topographic maps. The National Map and topoView provide ways to find sheets covering an area. Look up the actual position or place name and confirm it on the map before saving a file. Towns and commonly used routes can cross a quadrangle boundary.

For present-day planning, record the map edition and check when important features were collected. Historical maps can illuminate older road alignments and place names. Recent road conditions and agency notices still require separate information.

Build a set you can reopen

Save the sheet covering the usual area, then save any adjacent sheets needed to show a planned route. Keep the legend and margin information with the map. Name the file with the state, quadrangle and edition so another person can identify it offline.

Open each download with internet access disabled. Test normal zoom and find the legend. If you print a crop, include the scale and enough neighboring detail to recognize where that crop sits within the wider region.

SOURCE KEYS RTOPO RTOPOGET RSYMBOL

Read the scale before estimating distance

A scale of 1:24,000 means one unit on a map represents 24,000 of the same units on the ground. At that scale, one inch on a correctly sized print represents 2,000 feet. A route that bends around a hill or stream can be much longer than its straight-line separation.

Use the scale bar printed on the map whenever the print size or display zoom may have changed. A PDF printed to fit a smaller page can shrink the map and its scale bar together. A distance estimate made using the original inch conversion would then be off.

Measure for the question at hand

A straight-line estimate is useful for checking the distance between radio stations. A traveled-distance estimate follows the actual roads, trails or turns. For route planning, sketch or trace the path in short segments and add them. Mark the resulting distance as approximate.

Confirm an important road distance with an independent map or a normal-condition drive when practical. Travel time is a different calculation that also depends on traffic, terrain, restrictions and how long people can continue safely.

SOURCE KEYS RSYMBOL RTOPO RNPS

Read contours as a description of terrain

Contour lines connect points at the same elevation. The contour interval gives the vertical difference between successive lines on that particular map. Closely spaced contours indicate that elevation changes rapidly over a short horizontal distance. Widely spaced lines generally indicate a gentler slope.

Read the legend before interpreting a shape. A broad valley, steep-sided drainage and hilltop can make different route options look similar on a street map. A road crossing the lines in quick succession may involve a climb. Read the line values and labels where available to see the direction of that change.

Use contours to ask better questions

A ridge between two points can help explain a difficult local radio path. A low crossing can flag a place to check for closures during heavy rain. The map provides a reason to check conditions and a location where the check matters.

Keep current evidence separate. A printed contour map cannot tell whether a bridge is open, a stream is safe to cross or a trail is passable today. Verify conditions through appropriate sources and respect closures and signs.

SOURCE KEYS RTOPO RSYMBOL RFLOOD

Work out what north means on the sheet

Many maps distinguish true north, magnetic north and grid north. True north is the direction toward the geographic North Pole. A magnetic compass responds to the local magnetic field. Grid north is the direction along the map's grid lines. Their relationships vary with place and projection, and magnetic declination also changes with time.

Look for the map's orientation diagram and note its date. If using a compass with a map, obtain current declination for the place from NOAA's National Centers for Environmental Information and follow the compass instructions. Use the correct sign and convention for the adjustment rather than memorizing a single direction for the country.

Practice at a known location

Place the map on a stable surface and identify landmarks that are visible nearby. Compare the map's orientation to the landmarks and the compass. If the result seems inconsistent, move away from large metal objects and check that the chosen map and date match the site.

Start navigation practice in a familiar area. The goal is to recognize how the tools behave before you depend on them in unfamiliar terrain.

SOURCE KEYS RDECL RTOPO RNPS

Keep legends and index sheets with the maps

The legend explains the symbols used on a particular edition. A mark for a trail, road or structure may change across map products and years. A familiar symbol from one atlas may mean something different elsewhere. Save the legend supplied with the map or the matching symbol sheet.

An index helps locate the sheet that covers an area. For a route crossing several quadrangles, record which edge leads to each neighboring sheet. Put a small overview in the folder showing how the sheets fit together. A person looking at one sheet should have a quick way to find the next.

A practical paper packet

Keep the index first, followed by the route overview and the detailed sheets in travel order. Write the area and edition on loose pages. Include a map legend even if the map is normally easy for you to read.

When printing a map from a wide PDF, make sure the edges and labels you need are present. Check that the scale, orientation and sheet name survived the print. Test the packet with a person who has never seen the digital originals.

SOURCE KEYS RTOPO RTOPOGET RSYMBOL

Build a regional road map set

State transportation departments publish maps and traveler information. An offline set can include the state highway overview, city insets and county road maps where available. Keep enough coverage to follow both the usual route and a reasonable alternate. Start with roads already known to be public and appropriate for the intended vehicle.

A map produced for planning is a snapshot. Keep an official source for current closures and restrictions separate from the downloaded road sheets. The Federal Highway Administration lists state traveler information resources, and many states provide information through 511 services or their own transportation agencies.

Mark difficult decisions before travel

Circle the main junctions, river crossings and places where routes narrow or change designation. Add the names of roads as they appear on signs if those differ from local shorthand. Record the expected approach direction to avoid turning a route card upside down under pressure.

Save a destination inset with the relevant entrances. A clear final approach can matter as much as the major highway choice, especially if a complex has separate public, staff or service access.

SOURCE KEYS RFHWA RTOPOGET RNPS

GPS position and map data are separate

A GPS receiver calculates position from satellite signals. It may still show a position when cellular internet service is unavailable, provided the device and receiver can obtain a fix. The roads, place names and routing information shown around the position come from other data. Those data must be present locally if you want to use them offline.

An application that previously showed a route may have cached only some of the map. Download the map region explicitly where the application supports it. Check that the intended destination, alternates and the area around them are covered. An area boundary can cut through a road you use regularly.

Run a realistic offline test

Disconnect the device from data networks and start the application from a closed state. Check for a position outdoors, open the map and try a known route. Confirm what happens if you leave the planned line or change destinations. The device and application may respond differently to each test.

Keep a paper map of the route even when the test works. The two formats share useful information and fail under different conditions.

SOURCE KEYS RGPS RNPS RTOPO

Prepare an offline map application

Use an application that explicitly supports downloading maps for later use. Save the relevant regions before an outage. Include neighboring areas that an alternate route could enter. Learn where the device shows the edition or update date and whether storage is sufficient for a later refresh.

Inspect one destination while connected, then repeat the task with the device disconnected. Search for the same address, zoom to local streets and open a route if the application claims offline routing. Some applications support viewing a map offline while offering fewer search or routing features in that state. Test the behavior you need.

Preserve a small route reference

Write the first two difficult turns and the final entrance in a paper note. Add one regional map that can be used to recover orientation if the electronic view becomes confusing. Give each person a chance to use the application independently.

Save any necessary installer or application information alongside the archive where licensing and platform rules permit. A working offline map on one device is most useful when the group knows which device has it and how to find the stored region.

SOURCE KEYS RGPS RNPS RTOPOGET

Save positions in a consistent format

A coordinate is only as useful as the recipient's ability to interpret it. Latitude and longitude can appear in decimal degrees, degrees and decimal minutes, or degrees, minutes and seconds. A map may also use a different coordinate system. Agree on one format before exchanging locations and say it aloud when confusion is possible.

Include hemisphere letters or correct signs. In the contiguous United States, latitude is north and longitude is west. Avoid transposing the two values. When accuracy matters, preserve the datum or coordinate reference system given by the map or device, and add a recognizable landmark as a cross-check.

Practice transferring a point

Choose an ordinary public location. Find it on one device, record the coordinates and ask another person to enter them in their device. Compare the result with the intended site. If the applications use different formats, document the conversion in advance.

A location shared over voice should also include the name of the road, intersection or nearest landmark if known. Give a receiver more than one way to detect a misplaced digit.

SOURCE KEYS RGPS RTOPO RSYMBOL

Save local map data for a computer

A desktop geographic information system can display locally stored map layers. QGIS offers downloads for common computer platforms. For a simple offline project, use a small set of files for the actual area and keep them in the same project folder. A GeoPackage can carry map layers as an ordinary file.

For a Windows machine, save the appropriate installer while connected and test installation and opening a project before depending on it. Use a downloaded layer for base information. A layer that fetches map tiles from a server will behave differently after internet access is removed.

Keep a simpler copy

Export a basic PDF showing the map, legend and scale for the people who need to consult it quickly. Keep public data source and edition information with both versions. A reader who only needs to locate a road can open the PDF without learning the desktop software.

Test by closing the project, disconnecting the computer and opening it again. If a layer is missing, record its source and save a local replacement that you can use legally.

SOURCE KEYS RQGIS RTOPOGET RGEO

Write a route card

A route card is a short plan that can be followed when a screen becomes difficult to use. Put the start, destination and intended departure on the first line. Use checkpoints at major turns, crossings and places where a decision must be made. Give the road name or route number and the direction of travel.

Choose checkpoints visible from the route. The name of a distant business or a small sign can change. A major intersection, river crossing or clearly named public site can help travelers orient themselves. Add expected distances where useful and mark them as approximate.

Add a decision point

Identify one place where a traveler can stop safely and decide whether to continue. Record how to contact the destination or wait for the next update. Carry the larger map so the driver or navigator can see what is nearby.

Have another person read the route card while looking at the map. Ask them to describe where they would turn and which entrance they would use. Revise any instruction that is obvious only to the person who wrote it.

SOURCE KEYS RNPS RFHWA RTOPO

Choose an alternate with different dependencies

Two routes that share the same bridge or low crossing can fail together. A good alternate changes the feature that is most likely to close, when such a route exists. Look for distinct crossings, approaches from another direction and destinations that remain useful if travel stops early.

Check whether the proposed roads are public, suitable and currently allowed. An unpaved or seasonal segment may look inviting on a map while being impractical for the vehicle or weather. Keep contact information for the relevant road authority with the plan and note any official notices you receive.

Plan where to turn around

Identify a safe place on the usual route where a traveler can choose the alternate without entering a closure. Write the decision point on both the map and route card. If the alternatives are uncertain, include a safe place to wait or a return option.

Keep the fallback proportional to the actual objective. A short trip for information may be postponed. A directed evacuation may require a route selected by the authority responsible for the area.

SOURCE KEYS RFHWA RREADY RTOPO RFLOOD

Let closures and conditions govern the trip

A printed route records a plan. A barricade, floodwater or official closure changes what can be done safely. Check current instructions before travel if they are available and take posted restrictions seriously. Never drive around a flood barricade or into floodwater. Flooded pavement can conceal a washed-out road and other hazards.

A route decision is easier if people agree in advance on conditions that stop the trip. Write the most relevant ones beside the route card. Examples include a closed bridge, a warning affecting the route or visibility too poor to travel safely. Select an appropriate safe waiting place before the driver has to decide under pressure.

Record what changed

If you turn back, note the time, place and observed reason. Pass along the actual observation or official closure notice. Avoid announcing that every nearby route is blocked if you have evidence about one location only.

A fallback can be to wait, return or use an authorized alternate. When public authorities give an applicable route or protective instruction, use that information to update the plan.

SOURCE KEYS RFLOOD RFHWA RREADY

Plan travel across jurisdictional boundaries

A trip can begin in one county and end in another state. The relevant transportation and emergency agencies may change along the way. Make a short list of those agencies before traveling and save the names of the places where jurisdiction changes. Write which source is responsible for the segment people are asking about.

A county road and a state highway may be reported through different channels. A local notice can cover city streets, while a separate source handles an interstate. Use an official notice for the segment it actually describes. Match a description such as north of town to a route number or map location before passing it on.

Keep a source beside each segment

When drawing the route, write the road authority or alerting area in the margin. Add a line for the last time the information was checked. Store state and local contacts by segment so someone else can follow the same route when you are unavailable.

A boundary on paper can make a jurisdictional question easy to ask. It helps keep one agency's update from being mistaken for a statement about an entire region.

SOURCE KEYS RFHWA RREADY RIPAWS

Describe a position others can find

A useful location report includes enough detail for a person unfamiliar with the area to find it. Start with the state or county when names might repeat. Add a street and cross street, route number and mile marker, or a recognizable public landmark. Say which side or direction of travel matters.

When sharing coordinates, identify the format and hemisphere or sign. Add a descriptive cross-check. A point that lands far from the named road can reveal a typing error. If you are reporting an observation from a distance, distinguish your position from the location of the observed feature.

Make access part of the report

An entrance, gate or route restriction can change how a recipient approaches the location. Describe the public access point you actually know and report any observed barrier with its time. An uncertain access detail can be left open for confirmation.

Practice using a location on a paper map and a device. Ask the listener to point to it without seeing your screen. A position is successfully communicated when the other person can locate the intended place.

SOURCE KEYS RGPS RTOPO RICS

Build maps people can read under pressure

A map is a working document. Print it at a scale that keeps road names legible. Mark destinations with symbols and words so the key information survives grayscale printing and can be used by people who distinguish colors differently. Use a clear north arrow and preserve the scale.

Someone may need to read the map in a dim room or from a vehicle seat. Test that actual use. Enlarge the difficult junctions and add a short written description for a person who relies on text. Keep the paper map accessible to the people assigned to use it.

Design for handing the map to someone else

Ask another person to find the start, destination and decision point without explanation. If several people use different names for a landmark, give the official name and the common local name. Mark any private road or controlled entrance that could be mistaken for a public approach.

A clear map uses fewer competing marks. Keep historic observations and training examples in a separate copy so the one used today shows only the information needed for the task.

SOURCE KEYS RTOPO RSYMBOL RNPS

Maintain the offline map shelf

Keep one current working copy of each frequently used map and one older version if it answers a useful historical question. Give files date and place labels. Save the organization that issued each map and where you would check for an update. The index can be plain text or a printed sheet.

Use separate folders for road maps, topographic sheets, geographic data and incident notices. A closure notice belongs with its issue time and the event it concerned. Record when a printed map was replaced so an old page can be removed from the field packet.

Test the shelf as a user

Take one paper map out of the folder, then find its matching digital file. Open an electronic map without connectivity and check that the expected area, legend and scale are present. Confirm that other household members can find the same information without using your account.

A small number of deliberate updates can keep the shelf usable for years. After a change in roads, destinations or household routines, update the area that changed before collecting more material.

SOURCE KEYS RTOPOGET RTOPO RFHWA

Run a map and communications drill

Choose a familiar destination and plan a short practice session. Tell all participants that it is an exercise. Begin with the internet disconnected on the map device. Find the destination on paper, locate the same point in the application and write the main and alternate approaches on a route card.

Have one participant describe a fictional closure at a named location. A second person should find the point and explain whether it affects the main approach. If you use amateur radio for the practice exchange, follow normal licensing, identification and channel rules.

Review what failed first

Check whether the map file opened, the road name was legible and the location could be copied accurately. Compare coordinates if they were used. See whether a different person can find the same route materials and continue the task. Record the exercise date and one change to make.

The drill is complete when the household can repeat the task with ordinary equipment and without help from a connected device. A clear paper index and one familiar backup map often solve the first failure.

SOURCE KEYS RTOPOGET RNPS R97 RICS

Lawful Authority and Federal Continuity

Who can act when offices go quiet

A power outage can leave an office unreachable while its lawful authority remains intact. The missing signal is often a communications problem. The first question is which office has responsibility for the decision you face. A county road closure, a boil-water notice, and a presidential succession question each come from a different source of authority.

Keep a paper list of offices by function. Write the name of the jurisdiction alongside each office. Include the emergency management agency, public health department, road authority, water provider, and clerk of court. Some local services are run by a special district or a provider that serves more than one county. Save an official contact that works when an ordinary office line is unattended.

A notice that names the issuing office, affected area, time, and action gives you a way to check its meaning. In a changing incident, record when you heard it and whether you later found an update. An unanswered phone, a rumor about an official, and an unsigned screenshot leave the authority question open.

SOURCE KEYS CGUIDE CSTATE CIPA

Continuity of government and continuity of operations

Continuity of government concerns the survival of lawful governance. It includes the ability of elected and appointed institutions to exercise their constitutional and statutory roles across a disruption. Continuity of operations concerns how a particular organization sustains its essential functions while its normal people, buildings, technology, or processes are interrupted. A functioning government depends on both.

Imagine a county office where the building is unavailable. The government question is who may make a lawful decision when the usual officer is absent. The operational question is how authorized personnel can issue and record the decision with the staff and systems they can actually reach. A succession rule can answer the first question even when a communications failure delays the second.

File your references under three plain headings. Put constitutional and statutory succession under **Authority**. Put agency service instructions and temporary office hours under **Operations**. Put the most recent orders and updates under **Active notices**. That separation helps you find a lasting rule without confusing it with a notice that expired on Tuesday.

SOURCE KEYS CGUIDE CCOOP

The Constitution assigns different succession questions

The Constitution describes several distinct events. A president can leave office permanently. A president can be unable to perform the job for a period. A president-elect can fail to qualify when a new term begins. Congress also has statutory rules for cases in which neither the president nor the vice president can discharge presidential duties. Start with the type of event, then open the corresponding text.

The Twenty-Fifth Amendment addresses succession after a sitting president dies, resigns, or is removed, as well as the procedures for presidential inability and filling a vice presidential vacancy. The Twentieth Amendment deals in part with the start of a term. Section 19 of title 3 of the United States Code supplies the statutory framework beyond the vice president.

Keep the constitutional text and the statute together, with a printed date on the statute. You can use the arrangement in a tabletop exercise. Write one event on a card, such as a vacant vice presidency, and find the controlling provision. A short event description helps prevent a reader from carrying a rule from one constitutional situation into another.

SOURCE KEYS CAMEND CUSC

When the vice president becomes president

Section 1 of the Twenty-Fifth Amendment provides for a permanent change in office when a sitting president dies, resigns, or is removed. In those cases the vice president becomes president. That rule differs in consequence from a temporary transfer of powers under Sections 3 or 4, where the vice president serves as acting president while the office of president remains occupied.

News accounts sometimes use the word “succession” for both situations. In a saved record, write the status reported by the issuing institution. Keep the event, the effective time, and the identity of the official source on separate lines. If a report merely describes an absence or a medical event, record the report in those terms until the constitutional status is confirmed.

A formal announcement is valuable because it answers the question that a schedule change cannot. A canceled appearance may mean a flight delay, an ordinary illness, or a move to a different venue. Record facts that directly establish a change in office. The constitutional text defines what follows once that event is confirmed.

SOURCE KEYS CAMEND

Filling a vacant vice presidency

When the vice presidency is vacant, Section 2 of the Twenty-Fifth Amendment directs the president to nominate a vice president. The nominee takes office after confirmation by a majority vote of each house of Congress. The timing depends on a nomination and the separate actions of the House and Senate.

This process matters when public accounts treat the next person in the statutory presidential line as though that person had become vice president. The statutory line and the appointment of a vice president answer separate questions. One concerns who may act as president in the circumstances covered by law. The other fills a specific constitutional office through nomination and congressional confirmation.

In a civic reference binder, give this provision its own one-page note. Leave room for the nomination date, House action, Senate action, and date the nominee took office. In a long outage, news may arrive piecemeal. A list of the steps makes it easier to recognize what is still pending when only one chamber's vote has been reported.

SOURCE KEYS CAMEND CUSC

A voluntary temporary transfer of presidential duties

Section 3 of the Twenty-Fifth Amendment provides a process by which the president communicates an inability to perform presidential duties to the Speaker of the House and the president pro tempore of the Senate. The vice president then discharges the powers and duties as acting president until the president communicates that the inability has ended through the prescribed process.

The process can apply to a planned temporary absence from duty. A clear record will show when the transfer began, who is exercising the powers during it, and when the president resumed the duties. For an observer following the event by radio or print, the authoritative documents carry more information than descriptions of the underlying medical reason.

Use two separate entries for the start and end of any confirmed transfer. Note the official source and time for each entry. If you have a report of the start alone, leave the end pending. This keeps a written summary useful after the next broadcast and helps avoid passing along an obsolete statement about who is exercising presidential powers.

SOURCE KEYS CAMEND

A disputed finding of presidential inability

Section 4 of the Twenty-Fifth Amendment addresses an inability determination initiated by the vice president and a majority of the principal officers of the executive departments, or the other body Congress may provide by law. A written declaration to the designated congressional officers begins a process in which the vice president acts as president. The president can declare that the inability has ended. The constitutional text then sets out what follows if that conclusion is contested.

Congress has a role when the dispute continues. The amendment sets specific time windows and requires a two-thirds vote in each house to sustain the determination in the circumstances it describes. These procedural details are worth reading in the text because a widely circulated summary can omit an important condition or report a deadline without its starting event.

A person keeping records during an outage can write down the dated declarations and congressional actions as they are confirmed. Leave medical speculation out of the log. Record the language used by the issuing offices, identify who issued each declaration, and distinguish a reported intention from an action actually taken.

SOURCE KEYS CAMEND

At the beginning of a presidential term

The Twentieth Amendment sets the end and beginning of presidential and vice presidential terms at noon on January 20. It also addresses events at that boundary, including the death of the president-elect and the possibility that a president has yet to be chosen or the president-elect has failed to qualify. The relevant provisions distinguish an elected successor from a sitting officeholder.

If the president-elect has died at the time fixed for the term to begin, the vice president-elect becomes president. In specified circumstances where a president has yet to be chosen or qualified, the vice president-elect acts as president until a president qualifies. The amendment also permits Congress to provide by law for a situation in which neither has qualified. Read the text alongside the current statute for that case.

Keep a separate timeline for a transition. Mark the scheduled beginning of the term and the effective time of each confirmed event. Public notices that say someone is “expected to act” describe a future possibility. A dated official notice about qualification or the actual exercise of authority answers a different and more immediate question.

SOURCE KEYS CAMEND CUSC

The statutory line beyond the vice president

Section 19 of title 3 sets a statutory line to act as president when neither a president nor a vice president can discharge presidential duties in the situations it covers. The Speaker of the House and then the president pro tempore of the Senate appear before a list of executive department officers. The statute also sets out qualifications and conditions that matter in deciding whether a person on the list can act.

The title of an office is only one part of the legal inquiry. The statute deals with eligibility to the presidency and with the process for legislative officers to act. It contains additional requirements for department officers. Those details are why a graphic with a list of names is an incomplete guide to an actual event.

Save the entire section with its publication date. Put a shorter working sheet in front. Use columns for the office, eligibility or qualification question, and dated evidence of the actual action. Leave a blank line when the evidence is unavailable. The worksheet serves as a pointer back to the statute and relevant official notices.

SOURCE KEYS CUSC CBASE

The Speaker and the president pro tempore

Under the statutory succession provision, the Speaker of the House can act in the covered circumstances after resigning as Speaker and as a representative. If there is no qualifying Speaker, the statute next addresses the president pro tempore of the Senate, who must resign that office and the Senate seat to act. Each statutory step depends on the conditions in force at the time.

The president pro tempore is a Senate officer. The vice president is ordinarily the president of the Senate under the Constitution. Similar titles can confuse a reader who is looking at a short news item or listening to a compressed radio report. Write the full title in your log and include the chamber whenever it helps distinguish the offices.

A checklist for the legislative portion of the line can be very short. Record the condition requiring a statutory successor, the office potentially involved, and whether the required action has been confirmed. Read the complete section for duration and termination rules. A report that somebody stands next in line has a different meaning from confirmation that the person has begun to act.

SOURCE KEYS CUSC CBASE

Executive department officers in succession

Section 19 lists executive department officers in a particular order after the relevant legislative officers. The Secretary of State heads that portion of the line, followed by the Secretary of the Treasury, the Secretary of Defense, and the Attorney General. The remaining order is set out in the statutory text. Keep the statutory text in the reference so you can verify the full order.

The statute attaches qualifications to this part of the line, including eligibility to the presidency and a provision concerning Senate-confirmed appointment to the relevant office before the triggering event. Vacancy, inability, and a temporary assignment can complicate a report that names a department without explaining who holds its qualifying office. Confirm the person's legal status from an authoritative notice before treating a news list as conclusive.

For a practical source note, save the complete section and a separate list of links or locations for official updates. Record the date of the copy. Agency names or responsibilities may change over a long storage interval, and an old chart can quietly drift away from the wording of the law.

SOURCE KEYS CUSC

House vacancies and continuity of representation

The Constitution directs the executive authority of a state to issue writs of election when vacancies happen in that state's representation in the House. House seats are filled by election. In a disruption involving multiple vacancies, federal statutes and state election procedures can interact. Congressional Research Service materials discuss the issues and the statutory framework for extraordinary circumstances.

A representative being temporarily unable to travel or attend differs from a vacant seat. Those situations can affect attendance and the practical ability to conduct business, but the constitutional rule about filling a House vacancy addresses the vacant seat. If you follow a developing event, use the chamber or state election authority for confirmation of the vacancy and the election schedule.

Keep the election authority's public contact and the district number in your local civic file. Record the date of the announcement and any date that voters must act. Check the official source again when communications resume. A special-election notice from another district can look relevant after the location line has been cropped from a shared image.

SOURCE KEYS CBASE CCONG

Senate vacancies and state procedures

The Seventeenth Amendment directs the state executive authority to issue writs of election when a Senate vacancy occurs. A state legislature may empower the state's executive to make a temporary appointment until the people fill the vacancy by election under the applicable procedures. That constitutional permission explains why state rules can matter to the timing and process.

Find the official state election agency and preserve the current state statute or public explanation. Record the office that issued it, the date you saved it, and what kind of event it covers. Treat a media report that uses another state's practice as an illustration until you verify your state's rule. Senate procedures and congressional calendars provide context once an appointment or election has actually occurred.

An offline worksheet can help keep the status straight. Include columns for confirmed vacancy, appointment authority, temporary appointment if applicable, election scheduling, and official sources. Use the sheet as a reading aid. Local registration deadlines, polling sites, and ballot procedures remain separate practical questions for the election office responsible for your address.

SOURCE KEYS CAMEND CCONG CSTATE

Quorum and the ability to conduct business

Article I establishes the ordinary constitutional principle that a majority of each house constitutes a quorum to do business. The houses have procedural rules and precedents about attendance, counting, and the handling of extraordinary circumstances. The Congressional Research Service discusses special House quorum procedures for catastrophic circumstances and the distinction between absence and vacancy.

A photograph of a mostly empty chamber is a weak record of whether a particular vote was valid. It omits the official count, the procedural step, and the governing rule. A reliable record includes the chamber, the date, the business before it, and the official account of how the action was taken. Floor activity and a final result may reach the public on different schedules.

If your aim is to know whether a bill or resolution took effect, trace it from the recorded action through the additional steps required for that type of measure. Save official records with the time and institution in the filename. Distinguishing a preliminary procedural vote from final action helps prevent errors in later summaries.

SOURCE KEYS CBASE CCONG

Courts during federal disruption

Federal judicial authority rests in the constitutional and statutory framework governing the courts. The loss of an individual courthouse or a filing counter creates an access and continuity problem. Courts can issue public notices about closures, emergency contacts, or filing arrangements. The responsible court is the one handling the case or matter in question.

If a deadline or hearing concerns your household, keep the court name, case identifier, scheduled date, and official clerk's contact together. Record whether you have seen an order that changes the deadline or the hearing. A notice that a building is closed may leave specific procedural questions to the court's rules or a separate order. Ask counsel or the responsible clerk how to obtain the applicable public notice.

Save the relevant notice with its date and court name. Keep a paper note of unsuccessful contact attempts and follow up when service resumes. The purpose of the record is to preserve what you knew and where you looked. It cannot by itself alter a legal obligation or establish that a deadline has changed.

SOURCE KEYS CBASE CCOURTS CFIFTH

Essential federal functions during interruption

Federal continuity requirements direct executive branch organizations to identify essential functions and prepare to carry them out through disruption. The public directive describes program responsibilities, including planning, training, records, communications, and evaluation. Agencies may deliver some services through temporary channels while other programs are delayed or reduced.

A continuity question for a household starts with the needed service. Identify whether the service comes directly from a federal office, through a state agency administering a program, or through a local partner. Then look for the public notice from the organization that actually receives applications or delivers the service. An agency-wide statement may be accurate while leaving a local counter's hours unresolved.

Keep a service entry with the program name, usual contact, temporary contact, and the most recent verified hours. Put unresolved cases in a follow-up list. When communications return, use the ordinary account or case record to confirm that a request sent during the interruption was received. Preserve its date and confirmation number where available.

SOURCE KEYS CFCD CCOOP

Delegation of authority and succession within an agency

Succession concerns who assumes a role under a specified rule when its usual holder cannot act. Delegation concerns which powers a properly authorized official may exercise under a particular grant. A person may be able to approve an operational task without assuming every responsibility of the office. A continuity plan needs to account for both possibilities.

Suppose a field office tells the public that another office is receiving documents during a closure. That notice can resolve where to submit papers. A different question is whether the temporary office has authority to decide the application. Read the notice for the service described. If the next step remains unclear, confirm it through the program's official public contact.

Keep delegation and succession separate when filing a document. Mark the issuing office, what action the document covers, when it takes effect, and any public expiration or supersession information. Avoid assuming that a temporary routing announcement changes the law that governs the underlying service. It may simply help the original institution carry out that law.

SOURCE KEYS CGUIDE CCOOP CFCD

Reconstitution and the return of regular service

Continuity planning includes the return from temporary arrangements to a regular or revised operating pattern. A restored telephone number and an open building are encouraging signs, but services can reopen at different times. Cases accepted during a disruption may need to be reconciled with records held at the original office.

For any unresolved public service request, keep one entry with the time it was made, the temporary channel used, the case or receipt number, and the next action. As regular service returns, ask the agency to confirm the status through its established channel. Retain the older confirmation until you can match it with the restored record.

A useful closing entry answers three questions. Which office now owns the case, which documents have been accepted, and when should you expect an update? A direct status confirmation can spare you from resubmitting the same material or relying on an announcement that describes a different phase of recovery. Update the household service list after each confirmed change.

SOURCE KEYS CCOOP CFCD

Checking a claim that lawful authority changed

Imagine a morning outage during which an audio message says an unnamed official has “taken control.” Your first useful action is to identify the jurisdiction and the kind of authority the message claims. It could refer to management of an incident, temporary supervision of a public office, emergency powers under state law, or succession to a constitutional office. Those possibilities require different evidence.

Write down the exact claim in your own words and mark it unconfirmed. Look for a dated statement from the responsible institution. Compare the stated authority with your offline constitutional, statutory, or agency reference. Use a known public contact when possible. Preserve a copy of any official notice so you can distinguish the original from later paraphrases.

In the meantime, follow separately verified instructions that apply to your location and circumstances. A public safety order with a known issuer and boundary can be evaluated without resolving every claim about events elsewhere. This simple separation keeps an uncertain national story from delaying an immediate local decision.

SOURCE KEYS CAMEND CUSC CGUIDE CIPA

State and Local Continuity

Build a map of the government that serves your address

Find the state emergency management office and then identify the local agencies responsible for your street. A municipality, county, tribal government, or special district may provide different services at the same address. If you live in an unincorporated area, the county may perform functions that a city handles nearby. Your property records, utility bill, and local agency directory can help establish these boundaries.

Draw a simple service map with one line for each function. Include police and fire dispatch, water, road closures, public health, emergency alerts, and the clerk or court you normally use. Add a public after-hours contact wherever the agency publishes one. Give each line a space for its official name, area served, and source date.

Choose two entries and verify them before an emergency. A useful test is to ask who would post a closure on the bridge you cross most often and who would issue a warning affecting your tap water. Record the answer as a jurisdiction and a public source you can check.

SOURCE KEYS CSTATE CGUIDE

A declaration and an order do different work

An emergency declaration records a formal determination and can enable authorities or resources under a particular law. A public safety order may separately require or direct an action, such as leaving a defined area or avoiding a closed road. A notice about the availability of assistance can be a third document with its own conditions. All three may appear during one incident.

Begin by identifying the issuer and reading the operative text. Look for what happened, what authority the document cites, where it applies, and when it takes effect. Mark whether the notice is an order, recommendation, closure, or benefit announcement. If it changes an earlier notice, write the earlier date or identifier beside it.

Keep the declaration for context and post the current actionable order where household members will see it. Identify its source and update time on the printed copy. This helps when a broad news headline about emergency powers arrives alongside a much narrower notice concerning a single road, facility, or neighborhood.

SOURCE KEYS CDECL CGUIDE CREADY

Look up the authority for the place you occupy

A state's continuity provisions can differ from its neighbors' provisions, and local authority also varies. A city's charter may identify how an acting officer is selected. A county may publish its continuity information under county administration or emergency management. A special district may have a governing board and a separate legal source for its powers.

Use the state legislature or revisor's site for statutes. Use the municipal or county clerk for local enactments and adopted charters. Start with the place where the affected service or property is located. If you have crossed a state line, keep the two jurisdictions in separate notes even when their emergency agencies coordinate the same incident.

A workable reading order begins with the state constitution for state offices. Continue with the current statute and any publicly issued order that applies to the event. For a local office, add the charter or code where available. Keep an older reference if it helps explain what changed, and label it as historical with the date it was replaced.

SOURCE KEYS CSTATE CGUIDE

Kansas example of ordinary gubernatorial succession

Kansas illustrates how constitutional and statutory provisions fit together. Article 1, Section 11 of the Kansas Constitution provides for the lieutenant governor to become governor after a vacancy and to assume the governor's powers and duties during disability under the provision. Kansas Statutes Annotated Section 75-125 addresses vacancies and continues the ordinary statutory sequence through specified legislative officers when the relevant executive offices are vacant.

Save the constitutional section and the statute as separate documents. Identify which describes vacancy and which also discusses disability. The text of a vacancy provision answers a different question from a temporary inability provision. During an ordinary weather disruption, the temporary loss of contact with a public office does not establish that either legal event has occurred.

For a reference outside Kansas, use this example as a method. Find your state's official constitution and statute pages and identify the procedures for vacancy and temporary inability. The institutional names and next offices can differ. File your own state's verified documents under its full name so the Kansas illustration stays clearly labeled.

SOURCE KEYS CKSCON CKS125 CGUIDE

Kansas example of emergency interim succession

Kansas has additional statutes for emergency interim succession. Article 12 of Chapter 48 addresses executive and judicial succession in the circumstances it defines. Article 13 addresses legislative succession. These laws contain their own definitions, conditions, and procedures. Article 12 also provides for certain local arrangements under its terms.

Read the definitions before reading the order of interim succession. The act's references to an attack and unavailability are defined legal conditions. A utility outage, by itself, gives you no reason to assume that the special interim statute has been activated. The public evidence must establish the event and the legal basis of any action.

A useful one-page comparison puts ordinary gubernatorial vacancy on one line and emergency interim succession on a separate line. For each, record the official text, the triggering condition described by the law, and the issuing office for a current notice. Repeat the method in your own state using its sources. A public official's title alone may leave the actual authority question unanswered.

SOURCE KEYS CKSART12 CKSART13 CKS125

Kansas example of a continuity planning order

Kansas Executive Order 23-03 directed covered state entities to develop continuity of operations plans. The order covers topics such as essential functions, succession, delegation, communications, vital records, testing, and the restoration of regular operations. Its public requirements describe a planning responsibility. Individual service changes still appear through the responsible agency's actual notices.

A resident can use a public order of this kind to understand why an office has backup arrangements. For example, a benefits program may continue accepting documents through a temporary public channel even when its usual counter is closed. Look for a dated announcement describing the service and the temporary process before sending records.

File the executive order with state continuity references and save actual closure or service notices with the affected program. The order supplies context. The program notice tells you what to do about your application today. When the temporary process ends, preserve its record long enough to confirm any request you sent while the alternate service was in operation.

SOURCE KEYS CKSEO CCOOP

Find local law through the clerk

A clerk can help locate a public charter, code, ordinance, meeting action, or emergency notice that describes local authority. Ask for the public version and the date it was adopted or most recently amended. If the source is an online code, note the version date and the issuing municipality. A privately maintained copy can be useful as a pointer to the official text.

A municipal code may use terms such as acting mayor, city manager, council president, emergency management director, or designated successor. The names and roles vary. Begin with the actual office involved in the decision. A legal succession rule, a council resolution, and an announcement that someone will staff a temporary counter answer different questions.

Give your binder a short municipal law section focused on the provisions you use. Include the basic form of government, the public succession or acting-officer rule if available, and the location of dated public actions. Add a one-line note showing which agency issues emergency notices. Review the section after a charter revision or change in local government structure.

SOURCE KEYS CGUIDE CSTATE

Special districts may provide essential services

An essential service may be managed by an entity with boundaries that differ from the nearest city's. Water, wastewater, fire protection, transit, and some other public services can come from special-purpose organizations. A city-level bulletin may correctly describe its own facilities while an adjacent service area receives different instructions.

Use the provider name on an account statement or official service map. Record the area served and a number or page the provider uses for public advisories. Write down the name exactly. Two districts with similar names may serve different sides of a highway or different subdivisions.

If you receive a utility or public health advisory, match the service area and time to your household. Ask the provider or the official emergency agency for clarification when the boundary is uncertain. Preserve the notice itself. Later, a copy can explain why you used an alternate service or incurred a documented expense during the affected period. Keep contact information and case records separate so you can share the former without exposing the latter.

SOURCE KEYS CSTATE CGUIDE CIPA

County coordination and the service owner

County emergency management often helps coordinate information and resource requests across local organizations. The actual service may still belong to a city, utility, regional authority, tribal government, or state agency. Keep the coordinator and the service owner as separate entries when making a household list.

A practical example is a road damaged near a town line. A county bulletin may warn the public about the general incident. The jurisdiction responsible for the road can publish the exact segment and reentry rules. A sheriff's public notice may describe enforcement or a temporary detour. Those documents can complement one another if they identify the same road and time.

Before making a trip, note the named endpoints and when the route status was confirmed. Leave room for a second source or a later change. If you cannot confirm a route, write that uncertainty clearly in the travel plan. A city limit, postal address, and service boundary can each be correct while describing different areas of responsibility.

SOURCE KEYS CSTATE CGUIDE CREADY

Rural addresses and county lines

A rural address can sit near several response boundaries. The postal city, utility provider, and emergency dispatch jurisdiction may each describe the location differently. Use the physical address and county or tribal jurisdiction when reporting a problem. Keep a printed map with the nearest road intersection and a clear way to describe the approach from a main route.

Create one line for each nearby route you might rely on. Identify the agency that normally posts its closures, and record whether you must cross a county or state boundary to use it. If an alternate route crosses into a different jurisdiction, preserve the second authority's public contact as well. This preparation saves time when a phone map is stale or cannot load.

When sharing a local status report, use a fixed landmark, direction of travel, and time. Distinguish the route you directly observed from a detour someone suggested. A brief dated report from a known place is more useful than a sweeping description of what an entire county is doing.

SOURCE KEYS CSTATE CREADY

Tribal governments and coordination

Federally recognized tribal nations have a government-to-government relationship with the United States. Tribal, federal, state, and local agencies may have roles in an incident. Their coordination arrangements and public contacts can vary by location and by the service involved. A county or state source may give only part of the relevant picture for an area within or near tribal jurisdiction.

Keep public tribal emergency and service contacts for places where you live, work, travel, or provide care. Use the tribal government's own public information when available. Identify the road or service area in your question and verify instructions with the agency that issued them. If a second government is providing aid or managing a different part of the incident, record that relationship explicitly.

Federal disaster declarations and assistance can involve tribal nations under the Stafford Act framework. Use current declarations and program notices for the particular event. In a paper record, spell out the government and the program. A general label such as “county aid” is too vague when an incident crosses institutional boundaries.

SOURCE KEYS CTRIBE CDECL CSTATE

The District of Columbia has its own public channels

The District of Columbia is part of this handbook's geographic scope and has a distinct governmental structure. Residents should use the District's official agencies and emergency notices for District services. An alert concerning nearby Maryland or Virginia can still matter to a trip or workplace while the relevant order for a District address comes from the authority responsible for that location.

The District's Homeland Security and Emergency Management Agency publishes public preparedness and response information. Keep the District source and the sources for adjacent jurisdictions separate in an offline folder. For each, record where to find transportation updates, incident notices, and instructions for public services. If you regularly travel across a boundary, mark the bridges, roads, and transit agencies you actually use.

A temporary service notice may concern one public building or one line of service. Record the agency, affected location, and update time. A headline describing conditions in the broader metropolitan area can be useful context. It is usually too general to tell you whether a specific office has moved or a local instruction applies to your address.

SOURCE KEYS CDCPLAN CSTATE CIPA

Read a public order as a dated document

Save the order and record the name of the issuing authority. Then identify the action, the location, the time it begins, and any stated duration. Read the conditions and exceptions in the actual notice. An evacuation zone map, a utility service-area map, and a road-closure map can look similar while covering different things.

A compact note can use five lines. Put the issuer first, followed by the affected area, instruction, effective time, and the source for updates. If the order says it replaces an earlier one, record that relationship. Mark the older copy as superseded when you have confirmed the replacement.

Use exact addresses or public zone identifiers when evaluating your location. If the boundary is unclear, contact the issuing agency through a known public channel. A repost may preserve the wording while dropping the time or boundary information. In an outage, that missing information can be the difference between acting on a current instruction and repeating one that applied to a different place or day.

SOURCE KEYS CIPA CREADY CGUIDE

Evacuation notices and destinations

An evacuation notice should be evaluated for the affected area and the instructions supplied by the authority handling the incident. Save the official map or boundary description and make sure you understand how it applies to your location. For a planned route, include the issuing authority's information on closures and any announced destination or shelter procedures.

Keep a household departure card with your route options, destination contacts, medication and mobility needs, and a place to record when you left. Follow current public instructions and be ready to revise the route as conditions change. An announced shelter location should be checked against its current opening status and what it can accommodate.

When electricity or mobile service fails, a paper copy of the zone map can be useful for orientation. Write the notice date on it, and check official broadcasts or other current sources for updates. Treat your stored map as a reference to geographic boundaries. A new closure or direction from responders can change the route available to you.

SOURCE KEYS CREADY CIPA

Shelter instructions can change with the hazard

Shelter-in-place instructions tell people in a particular area to remain where they are or move indoors as directed. The appropriate action depends on the hazard and the official notice. A severe-weather shelter direction can differ from an instruction issued for an airborne hazard. Use the current notice for the specific incident.

Record the affected area, the recommended location, and any instruction concerning ventilation, travel, or later updates. If your household includes a person who needs assistance moving or following a message, assign that task to someone who can help before the incident. Share the instruction in short phrases and confirm the listener understands the action and timing.

Write down the source for the all-clear or next update. A quieter street or the end of one radio bulletin does not tell you whether the instruction has expired. When a notice is replaced, post the new one where it will be seen and mark the old copy with the time you stopped relying on it.

SOURCE KEYS CREADY CIPA

Reentry is a separate decision

A decision to reopen an area can depend on damaged roads, utility hazards, fire conditions, and the ability of responders to work safely. A general announcement that a storm has passed does not establish that a specific area or building is open. Look for the authority's current statement about your zone and route.

Record any limits on who may enter and when. If you must present identification or proof of address, find the published requirement before traveling. Once the area is open, check whether your own building has separate restrictions or an inspection requirement. Public health advice about water or cleanup can continue after traffic is allowed back in.

Keep three entries in a return plan. Record the official reopening notice, the verified route, and the building's status. Update each as information changes. If you find a potential hazard, withdraw from the affected area and contact the appropriate authority. Documentation and repairs can wait until the immediate safety question has been resolved.

SOURCE KEYS CREADY CFLOODCDC

Record offices and temporary public counters

Vital records, permits, court documents, and public benefits can require different proof and different issuing offices. A disruption can close a building while leaving a phone, temporary counter, or mail process available. The public notice for the issuing office should tell you which services have resumed and how to request them.

Make a service card for each important record. Include the record name, the jurisdiction that issued it, and the official replacement procedure you verified. A birth certificate is generally requested from the office serving the place of birth, while a driver's license replacement goes through the relevant motor vehicle agency. Use the issuing government's directions for your circumstances.

Write down the office and official channel before gathering identity papers. Submit sensitive information through the agency's confirmed process and keep a record of what was sent. If the temporary office is handling only some requests, note the service you still need and set a date to check again. One small list can prevent repeated trips to closed counters.

SOURCE KEYS CID CSTATE CCOOP

Courts and deadlines close to home

State and local court calendars, orders, and filing procedures depend on the particular court and matter. When severe weather or a power failure interrupts operations, look for a dated notice from the court handling your case. Record the clerk's phone number and the next scheduled deadline or appearance on paper so you can act without access to email.

Check whether the notice expressly changes the relevant date, allows an alternate filing method, or provides a number for urgent matters. If the answer remains unclear, contact counsel or the responsible clerk as soon as possible. A person with a legal obligation should verify the actual requirements that apply to the case. Keep copies of official orders and receipts for any submissions.

When you hear a closure report, identify the specific court, location, and date before relying on it. A statewide notice may coexist with different reopening schedules at individual courts. Mark the unresolved deadline prominently so someone reviewing your notes can see that confirmation is still needed.

SOURCE KEYS CCOURTS CFIFTH CSTATE

Elections and local service disruptions

An election office is the public source to check for changes to polling locations and procedures affecting your address. A disruption near a polling place can cause confusing reports about hours, routes, or access. Use the current election authority's statement, and record the date and jurisdiction. The legal process for changing an election's procedures depends on the governing law and the type of election.

Keep the county or local election office and the state election office in your offline contacts. If one is unavailable, try the other for the official notice and any accessible alternatives. Confirm the specific precinct and election date. A photograph of a closed building may show a different entrance, an earlier time, or a building that stopped being the polling site.

A useful election note includes the office, affected precinct, confirmed instruction, and when you last checked it. If you relay the notice to someone else, preserve the date and source. Keep public directions separate from personal registration or ballot information.

SOURCE KEYS CELECT CCONG

Community Coordination During an Outage

Begin with a small neighborhood agreement

Community coordination begins with people who already know how to find one another. Invite a few neighbors or members of an existing group to agree on one public place or method for posting updates. Ask who can participate, which languages will be useful, and when people can realistically check in. Keep the first agreement small enough to remember when devices and schedules fail.

Choose one shared function, such as distributing confirmed information about open public services. Give it a named lead and a second person who can take over. Agree that volunteers work within their skills, pass urgent needs to appropriate responders, and seek consent before sharing information about a household. Keep emergency numbers and the relevant local agency's public contact visible.

Write a short description of the agreement and test it on an ordinary day. Ask a neighbor who did not attend the planning conversation to find the update point and identify the latest message. Their experience can reveal missing directions, language barriers, or assumptions about who has internet access.

SOURCE KEYS CWHOLE CADA

Write reports that another person can use

A good situation report gives an observation, location, time, and source. It also states whether action has been requested and who owns the next step. If someone reports that a supply location has closed, preserve the time and exact site. Add whether the person saw it directly or heard the information from another source.

Use ordinary words and one fact per line. Place urgent safety information near the top and route immediate threats through official emergency channels where available. Keep unconfirmed observations visible as such. When a later report contradicts an earlier one, preserve both with their times and state what you can confirm. A changing status may explain the apparent conflict.

Try this practice entry. At 2 p.m. a volunteer saw a locked gate at the north entrance to the community center. The west entrance was unobserved. The team called the public facility line and assigned one person to check the response. This is more useful than a report that the entire center has closed.

SOURCE KEYS CICS CWHOLE

Share status while protecting household privacy

Give people a way to request support without publishing their personal situation. A public board might say that a coordinator has a pending transport request. A private record can hold the contact information and pickup instructions needed to act on it. Collect what is necessary for the specific task and explain who will see it.

Avoid placing medical histories, financial details, names of children, or an unattended household's plans on a public sheet. If an agency or recognized relief organization needs sensitive information, direct the person to its confirmed process. Group volunteers can usually coordinate around the requested service and the time it is needed.

Before posting a list, imagine someone taking a photograph of it and distributing it beyond the group. If that would expose information the people involved did not agree to share, revise the list. Put public service hours, closures, and confirmed instructions on the public side. Keep contact and follow-up details available to the people responsible for the work.

SOURCE KEYS CWHOLE CADA

Make notices accessible without relying on a single format

A notice is useful only if the intended audience can receive and understand it. A spoken message misses people who cannot hear it. A small print notice may be inaccessible to someone with low vision. A message written in one language may leave a household unsure of the required action. Plan at least two ways of delivering important information.

Use large, high-contrast text on a printed board and plain language in spoken announcements. Identify the location, instruction, and time in the first lines. If a translation is needed, have a competent speaker review critical details such as street names, times, and whether a direction is mandatory. Offer a route for questions and confirmation.

During a practice session, ask someone to find the notice under realistic conditions. Consider bad lighting, wet paper, limited hearing, and inaccessible steps or doors. Note which person can update each channel during a disruption. A well-designed message includes a delivery plan and a way to learn whether it was received.

SOURCE KEYS CADA CIPA

Establish roles small enough to hand over

A community group can divide ordinary work into small roles without building a complicated organization. One person can maintain a dated list of verified public notices. Another can receive nonurgent requests and refer them to appropriate organizations. A third can keep track of assigned follow-ups. The names matter less than whether someone can take over when the original volunteer leaves.

For each role, write what it does, what information it may handle, and who receives an unresolved issue. Set a realistic end time for each shift. Encourage volunteers to report when they have reached their limits. Keep emergency response, medical judgment, and work requiring professional qualifications with the appropriate services.

Test a handover at the next meeting. The outgoing volunteer should be able to explain the current picture, active requests, and next expected update in a few minutes. If the work requires access to one person's phone or account, develop a way for an authorized replacement to use a shared paper record or verified public source.

SOURCE KEYS CWHOLE CICS

A public notice point needs ownership

A community bulletin board can help people find service hours, updates, and instructions when normal networks are unreliable. Obtain permission from the site owner and choose a location people can approach safely. Agree on who will update it and how often. A notice point that nobody maintains can leave outdated information visible after conditions change.

Post the last update time prominently. Keep verified instructions separate from offers, requests, and unresolved questions. Reserve space for accessible formats and translated notices where useful. Avoid blocking entrances, roads, or the work of responders. Have a second place or method ready if the original location becomes unavailable.

A simple maintenance routine takes only a few minutes. Date new information, remove expired notices, and check whether the posted source still stands behind the instruction. Keep copies of superseded notices in a folder if the group needs a record. Leave a message showing when the next routine update is expected, especially when no new facts are available.

SOURCE KEYS CWHOLE CADA CIPA

A check-in can be arranged before anyone needs one

Neighbors can agree to check on one another during a disruption. Ask participants which method they prefer and what they want someone to do if they cannot be reached. A missed call alone can mean that a device has lost power or the person has already gone elsewhere. An agreed sequence gives the checker a next step without requiring guesses about a household.

Keep permission, preferred contacts, and agreed follow-up private. Make sure each participant knows how to change or withdraw the arrangement. Choose an alternate contact in case the usual checker is also affected. If someone describes immediate danger, pass that information promptly to emergency services through an available official channel.

Practice with a short missed-contact scenario. Check the alternate number, verify the last confirmed update, and record what was done. Agree that participants will stay within safe and lawful access. A check-in group works best when residents understand both the help it can offer and how to contact professional assistance when more is needed.

SOURCE KEYS CWHOLE CADA CRED

Training connects volunteers to an existing response

A Community Emergency Response Team program provides locally organized training in disaster preparedness and basic team functions. Availability and activation vary by community. Contact your local program before a disaster to learn how volunteers are trained, which organization coordinates them, and what credentials or communications procedures it uses.

Training is valuable even for a person who expects to help only with ordinary household or neighborhood tasks. It provides shared language for reporting observations, respecting assignments, and understanding when a need must be referred. Volunteer opportunities through other recognized organizations can also fit people who have language, logistics, administrative, or accessibility skills.

Write down your group's official activation and check-in process after training. During an incident, arrange an assignment with the organization before traveling to a work site. An organization that knows who is coming can provide instructions and account for the people it has asked to help.

SOURCE KEYS CCERT CVOL CWHOLE

Donations work best when tied to a real request

After a disaster, a recognized relief organization may request money, volunteers, or specific goods. The requests can change quickly as donations arrive and conditions shift. Check the organization's current list and its collection or scheduling instructions. Goods sent without coordination can consume space and labor that responders need for supplies already requested.

For a neighborhood collection, start with a confirmed receiver. Ask exactly what it accepts, how it should be packed, when it can receive it, and who will transport it. Record those details on the collection notice and stop taking items when the request closes. Keep the receiver's public contact visible so people can check that the request is genuine.

Cash donations can give reputable organizations flexibility to buy supplies they need. Use an independently verified donation channel and keep the receipt. Ask before sharing an urgent appeal with others. The wording of a copied message may survive long after the collection site has moved or the receiving organization has stopped accepting the goods.

SOURCE KEYS CVOL CFEMARUMOR CFTC

Send a request that can be fulfilled

A workable resource request explains the need, quantity, location, deadline, and receiving contact. It describes relevant constraints, such as whether the item must be accessible to someone with limited mobility or whether the drop-off point has restricted hours. Give the receiver enough information to decide what it can supply and when.

Keep the request and its confirmation separate. A promise to try does not establish that a resource is coming. Mark the request as pending until someone with authority to provide it confirms the delivery or pickup arrangements. Record partial fulfillment and close the remaining request if another provider has already covered it.

For a nonurgent neighborhood example, a community site asks for two volunteers to move boxed supplies at a stated time. The request names the site lead and the conditions of the work. The confirmation identifies the volunteers and their arrival time. The closing entry records whether the task was completed and whether anything remains outstanding.

SOURCE KEYS CICS CWHOLE CVOL

Map the organizations that can do different jobs

A neighborhood can have churches, civic groups, disability organizations, local businesses, schools, libraries, and relief agencies that know different parts of the community. The presence of a building or institution does not establish that it offers a particular service during a disaster. Ask what each organization can actually do and how it announces temporary changes.

Create a partner list with the organization's confirmed service, operating area, public contact, and accessibility information. Ask whether it needs referrals, appointments, or a specific time for pickup. If it cannot provide a service directly, record the organization it recommends contacting. Use the public organizational number, or ask a volunteer for permission to share a personal contact.

Check the list on a normal day and during a short exercise. Ask someone unfamiliar with the plan to find where they would request one particular service. If several entries seem equally plausible, clarify which one normally takes the request and which one is an alternate.

SOURCE KEYS CWHOLE CADA

School reunification has its own process

A school district may use a family reunification procedure when an incident changes normal dismissal. District plans can include alternate locations, communication arrangements, and ways to verify who may pick up a student. Use the school's confirmed instructions for the current incident. Routes and receiving sites may change with conditions.

Keep the school's public emergency contact and the official alert method in your household records. Confirm which adults are authorized to collect each student and keep their information current with the school. Make sure another adult in the household knows the procedure and can follow it if the usual person is unavailable.

When a message arrives, identify the school, date, assigned location, and any identification requirement. Check for a later update before departing. Follow staff instructions at the site and leave access routes clear for emergency vehicles and other families. Record a completed pickup through the household's usual check-in so people stop searching for the student elsewhere.

SOURCE KEYS CSCHOOL CADA CREADY

Verify hours before sending people to a service

During an outage, a store, pharmacy, library, fuel station, or food distribution point may change hours, service limits, and accepted payment methods. Ask for the current conditions before sending someone there. A notice saying “open” may omit whether the public can obtain the item or service they need.

Use a dated status entry. Include the business or organization, location, observed or confirmed hours, public source, and any stated limitations. Record whether the location is accessible and whether it requires an appointment. Avoid publishing unverified inventory figures or promising a service on the operator's behalf.

When service is limited, direct people to the operator's public instructions. The coordination group can help by correcting stale information promptly. Ask the person who verified a change to update the public notice point and identify the date and time. A short verified update reduces unnecessary trips and helps people save fuel, battery power, and time.

SOURCE KEYS CWHOLE CCOOP

Apartment buildings have shared dependencies

An apartment building may depend on common entrances, elevators, lighting, water equipment, and systems that tenants cannot individually restore. Find the property's published after-hours contact and the process it uses to notify residents during outages. Keep a copy of the public contact where it can be found without a building app.

Coordinate access needs in advance with the people and organizations responsible for them. Know who can help share a verified instruction in an accessible format. Ask management which areas remain available under its plan and which require an official inspection or decision. Report concerns through the appropriate building or public channel.

A resident group can maintain a small status log for common issues. Record the time and location of an observation and when it was reported. Keep private details out of the public log. In an emergency affecting life safety, use the building's emergency procedures and contact responders through an available official channel.

SOURCE KEYS CADA CWHOLE CREADY

Rural coordination benefits from an agreed route and time

In a rural area, a message can take longer to travel than people expect. A neighbor may be working away from home, using a different road, or without a working phone. Agree on realistic contact windows and an alternate method for sharing updates. A plan that requires every participant to check in hourly can be difficult to maintain even in ordinary conditions.

Know the normal public routes to the nearest services and verify road status before making a special trip. Use a shared landmark and a clear time in each report. Note if a road condition was directly seen or relayed by an agency. Avoid treating an old report about one segment as an answer about an entire route.

Consider a relay for nonurgent public information. One volunteer checks an official county notice and passes the dated information to an agreed point. A second person updates the paper copy there. Participants can then consult a shared, verified source as updates arrive.

SOURCE KEYS CWHOLE CSTATE CREADY

Reunification starts with the last confirmed contact

When a disaster separates people, begin with the last confirmed contact and the agreed household meeting or check-in plan. Record the date, approximate location, and who had direct contact. Try the agreed out-of-area contact and relevant official reunification channels. The American Red Cross publishes options for certain welfare inquiries and family reunification requests after disasters.

Share accurate information with the organization handling the request. Keep private addresses, details about children, and sensitive health information off public boards. If someone faces immediate danger, seek emergency help through an available official channel. For an ongoing inquiry, write down the organization, time of contact, reference number if supplied, and when to follow up.

Close the search record when a reliable source confirms contact. Tell the authorized people who are still looking so they can stop duplicating the effort. Preserve the family's preferred method for future check-ins. The most useful record is often a brief, dated account of how a real person was reached.

SOURCE KEYS CRED CREADY CADA

Make priority decisions transparent and reviewable

A small volunteer group may receive more requests than it can handle. Write down the group's role, referral options, and the basis for choosing what it can do. Urgent threats to life need professional response wherever available. Volunteer time may be best used to connect people to existing services, share verified information, or complete low-risk tasks within the group's capability.

Consider the urgency, time sensitivity, and consequences of a delay. Also consider whether another organization is already handling the request and whether the proposed action can be completed safely. Do not require people to share more sensitive information than the task demands. Record the reason for deferring a request and identify any referral that was offered.

Review decisions when new information arrives. A request can become urgent, a partner can reopen, or a previously inaccessible route can change. Give an unresolved item a named owner and a time to check again. A short explanation helps the next volunteer make a consistent decision without assuming the earlier status still applies.

SOURCE KEYS CWHOLE CADA CICS

End each shift with a short handover

A handover is the bridge between the last person who knew the situation and the next person expected to act. Use one sheet for the current status, open requests, known hazards, and next expected update. Keep the source and date beside each important fact. Ask the incoming person to repeat back the items that require action.

A closed request should have a brief closing note. An open request should have a contact, a next step, and a time to follow up. Leave unresolved facts visible. Store any private documents separately and give access only to people who need it for their assigned role. Update the shared public board if a service notice has changed.

A reliable test is whether the outgoing volunteer can leave without receiving a call an hour later to explain a basic item. If the next person has to search a long chat thread to find a phone number or deadline, add it to the handover sheet. Keep the sheet short enough to update consistently.

SOURCE KEYS CICS CWHOLE CCOOP

Run a short community coordination exercise

Choose an ordinary disruption for a tabletop exercise. Imagine that power and mobile data are unavailable across several blocks and a neighborhood center changes its public hours. Give each participant one piece of the situation. Ask the group to verify the change, update the notice point, and pass an unresolved request to the right public or voluntary organization.

Introduce one complication after the first round. A translated message arrives with a different closing time, a volunteer needs to leave, or the usual notice board becomes inaccessible. Have the group record the discrepancy, establish which source to check, and hand the task to a replacement. Keep the exercise simulated and respect the ordinary work of local agencies.

At the end, write down one thing to preserve and one thing to change. Assign the change to a person and set a date to test it again. Good exercises expose assumptions that are invisible in a written plan, especially about who can reach a place, understand a message, or take over a task.

SOURCE KEYS CWHOLE CCOOP CADA

Disaster Assistance and Recovery

Start a recovery record before the first claim

Recovery starts with a record of what happened and what you have already done. Use one notebook or folder for the incident date, affected address, agencies or companies contacted, and next deadlines. If a household has several people helping, choose one person to reconcile duplicate entries and keep a current list of open tasks.

Make separate tracks for insurance, public assistance, property access, and repairs. Each has its own eligibility or decision process. A conversation with the insurer may generate a claim number. A public agency may generate an application number. A contractor may provide a proposal or receipt. Keep these identifiers in the corresponding track so one does not stand in for another.

Record losses only when it is safe to enter and document the property. Include dates and preserve the original pictures and receipts. If you cannot access something, write that down and follow up later. An organized, dated record gives you a way to respond when a program or insurer asks for facts weeks after the original disruption.

SOURCE KEYS CNAIC CUSAID CFLOODCDC

Find the declaration that covers the event

FEMA publishes declarations and related information about federally authorized disaster programs. The Stafford Act process allows certain requests and declarations involving states, territories, and tribal governments. A federal declaration can authorize particular types of assistance for designated areas. The public record for one incident may be amended as additional information becomes available.

Find the declaration number and the dates of the incident. Then check whether the affected address is in a designated area for the specific program you need. Write the program and the source date beside the address. A state emergency declaration may be relevant locally while the federal assistance question is still pending.

If a source merely reports that help has been requested, mark that step as a request. Check again for a decision and the program details. Save a copy of the relevant declaration or official listing when you can get it. That record helps prevent confusion if two storms in the same region generated different declarations or application periods.

SOURCE KEYS CDECL CTRIBE CFEMADIS

Individual Assistance and Public Assistance serve different applicants

Federal disaster information can use two program names that sound similar. FEMA Individual Assistance includes programs that can serve eligible people and households affected by a declared event. FEMA Public Assistance generally concerns eligible government and certain nonprofit applicants and eligible work such as response or restoration of public facilities. Authorization and requirements vary by declaration and program.

A household should check for the program that actually applies to its loss. News that an area has been approved for assistance can be accurate while leaving a particular family's eligibility unresolved. Ask what was authorized, for which areas, and what application process the program uses. Keep these details with the declaration number.

If a public road or utility remains out of service, its restoration may follow an entirely different process from your housing or personal property application. Keep one entry for the public service status and another for the household's assistance. This separation makes the recovery record easier to update as different organizations announce progress.

SOURCE KEYS CDECL CFEMAPA CUSAID

Contact your insurer and preserve the claim number

If you have insurance that could apply to the damage, contact the insurer through the number or channel you have independently verified. Ask how to open a claim, which documents to preserve, and what deadlines apply. Record the claim number, the date, and the name or identifier of the representative.

Ask how to document temporary measures or expenses and when the insurer wants to inspect. Keep receipts for work you authorize. If you must discard damaged items for safety or health reasons, document them first when that can be done safely and ask the insurer how it wants the record handled. Follow official health and reentry instructions.

A home, renters, flood, or vehicle policy can have different terms and claims procedures. File each claim under the correct policy and keep a copy of the relevant coverage documents. Review written communications before deciding whether to sign a settlement or assign benefits. If you have a dispute, your state insurance department can help you find the applicable consumer process.

SOURCE KEYS CNAIC CFLOODCLAIM CFLOODCDC

Apply through a verified disaster assistance channel

For an eligible disaster, apply at DisasterAssistance.gov, call the FEMA Helpline at 1-800-621-3362, or visit an open FEMA Disaster Recovery Center. Confirm that the assistance program covers the affected address. Record the application deadline for that disaster.

Prepare the application

Gather identification, current contact information, the affected address, insurance information, and a description of losses. Use a verified FEMA channel for sensitive information. If a requested document is missing, ask what you can submit now and how to supply the rest.

Keep the confirmation

Save the application number and a copy of what you supplied. If you applied by phone or in person, write down the date, the channel used, and any follow-up instructions. Store the record where you can find it if you relocate.

Keep a way to receive updates

A request for additional evidence may have its own deadline. If you move or change your phone number, update your contact information through a verified FEMA channel. Keep the application number ready when you check its status.

See also Decision letters, p. 379, and Disaster Recovery Centers, p. 380.

SOURCE KEYS CUSAID CFEMAIHP CDRC

Keep an application contact that can reach you

Displacement can interrupt mail, phone calls, and email. Give the assistance program a contact channel you can reasonably monitor and update it when your circumstances change. Keep a record of which number or address you supplied and the date it was last confirmed. If an authorized helper is involved, clarify their role with the program.

Create a single application log. Include the date filed, application number, pending documents, and next expected contact. When a representative reaches you, record what was requested and where it must go. Use the application portal or the official phone number if you need to confirm that a call or message is genuine.

Avoid sending personal documents to an address copied from a forwarded message without verifying it first. A short delay to verify a contact can prevent disclosure to an impostor. If you miss a real call, follow up through the published agency channel and record the outcome so another household member can see what remains open.

SOURCE KEYS CFEMAIHP CUSAID CSCAM

Renters have their own recovery questions

A renter can have damaged belongings, temporary lodging costs, a changed payment situation, and a damaged unit even when the landlord holds the building insurance. Contact the landlord or property manager through a verified channel for the building status and any written reentry or repair information. Contact your own insurer separately if you have renters coverage.

Keep your lease, proof of occupancy, rent payment records, and photos of damage when you can obtain them safely. Record the dates when you could and could not use the unit. If disaster assistance is available for the area, ask which expenses or losses may qualify and what records the program accepts for renters.

Housing rules and lease remedies differ by location and contract. For an unresolved question about rent, access, or the status of the lease, seek help from a local housing agency, legal aid organization, or qualified adviser. Preserve written notices and receipts so the arrangement can be confirmed later.

SOURCE KEYS CUSAID CFEMAIHP CMORTGAGE

Occupancy and ownership answer different questions

Disaster programs may ask for proof that the affected home was your primary residence. A program can also request proof of ownership when it is relevant to the type of assistance. Gather documents for the specific question the agency is asking and use the list it currently accepts. The same document may help with more than one issue.

An occupancy record could include an eligible lease or utility statement. An ownership record could include accepted property, tax, mortgage, or insurance documents. Program guidance can address alternatives when standard records have been lost or are unavailable. Ask for the published alternatives before assuming that a missing document closes the case.

In your folder, give each piece of evidence a plain label identifying the address, date, and question it answers. Keep original files and copies organized. Record when you sent the material and through which official channel. If a decision later refers to missing proof, you can compare the request, your submission, and the program's explanation.

SOURCE KEYS CAPPEAL CFEMAIHP CUSAID

A disaster inspection is a documented appointment

A FEMA housing inspection, when required, is part of verifying damage and eligibility information. The inspector can explain the inspection process and should have official identification. Check an unexpected contact through the program's established channel before providing sensitive information or granting access. Legitimate FEMA inspection services do not require a payment from you.

Have the application number, affected address, and any requested proof available. Be ready to explain which areas are inaccessible or unsafe. If you are unable to meet the inspector, contact the official program channel about how to reschedule or authorize a representative. Keep current contact information in your application.

After the visit, write down the date and any next steps you were told to take. An inspection is an information-gathering step. Follow the application through official messages for a decision or a request for more documents. If you receive a call demanding money to release the inspection result, verify the communication directly through FEMA before taking any action.

SOURCE KEYS CINSPECT CFEMAIHP CSCAM

Read a decision letter before deciding what to appeal

A disaster assistance letter may describe a decision, a request for more information, or an amount approved. Read the reason and the action it calls for. If you disagree or have evidence the agency lacked, use the appeal process in the decision letter and current program instructions. FEMA guidance generally gives 60 days from the date of its decision letter for an Individual Assistance appeal.

Build the appeal around the specific issue. An occupancy question calls for evidence that answers occupancy. An insurance-related decision may require the relevant settlement, denial, or coverage information. If the notice mentions several issues, make a short list and address each point clearly. Keep the letter, your evidence, and the submission record together.

Record the submission channel, confirmation, and date. Verify that the documents were received and ask about the next step if you need clarification. A simple dated file can help you see what changed between the first application and the appeal without trying to reconstruct weeks of conversations from memory.

SOURCE KEYS CAPPEAL CFEMAIHP

Disaster Recovery Centers can help with the process

FEMA Disaster Recovery Centers are locations where survivors can learn about FEMA and other available disaster assistance. Hours, sites, participating organizations, and services can change. Use the official locator or a current announcement for the incident before making a trip. Ask about accessible routes or communication assistance if you need them.

Take the documents relevant to your question and a short written list of what you need to resolve. Bring the application number if you already have one. If you are carrying sensitive information, keep it together and present it only to the appropriate representative. Retain originals unless an official process specifically requires otherwise.

At the end of the visit, write down which office addressed the question and what you still have to do. A short statement such as “upload proof of residence to the application by the date in the letter” is easier to follow than a page of unorganized notes. Verify any deadline against the written notice.

SOURCE KEYS CDRC CUSAID CADA

Flood claims need prompt documentation

If you have a flood policy, follow the insurer's official claims process and report damage as directed. When authorities have allowed reentry and the property is safe to access, document damage promptly. Take pictures that establish the affected area and details of the loss. Save policy and claim information with the image files and receipts.

Ask the insurer how to handle damaged items and any written loss statement or other required form. Health and safety instructions take priority during cleanup. Where items must be discarded, preserve whatever record you can obtain safely and ask the insurer about the next step. Keep documentation of temporary expenses and work you authorize.

Flood and other property claims can involve separate policies and contacts. Identify the policy for each part of the damage and record where each submission went. A single spreadsheet or paper table can list the damaged item or area, the policy or program you contacted, and which documents remain pending.

SOURCE KEYS CFLOODCLAIM CNAIC CFLOODCDC

A disaster loan is a borrowing decision

The U.S. Small Business Administration offers disaster loan programs that may be available to eligible homeowners, renters, businesses, and certain nonprofit organizations after qualifying disasters. The program's terms, allowable uses, and deadlines are part of the decision. A loan is a debt and requires a plan for repayment.

Find the official SBA program page for the event and determine which type of loan, if any, applies to your situation. Review the amount, interest rate, repayment terms, and conditions before accepting. Ask for a clear explanation of the effect of insurance proceeds or other assistance on the amount or use of the funds.

Write down what you would use the loan for, which costs are still estimates, and which payment would fit your post-disaster budget. Keep the application, offer, and decision in the recovery file. A household may have several recovery options at different times. Compare the actual terms using current written information and seek qualified advice if the consequences are unclear.

SOURCE KEYS CSBA CUSAID CMORTGAGE

Call the mortgage servicer early when payments are at risk

A disaster does not automatically end a mortgage payment obligation. If damage, lost income, or displacement makes payment difficult, contact the mortgage servicer through a number you already trust. Ask which disaster-related options apply, what documentation is needed, and how any temporary arrangement affects payments afterward.

Write down the date, the representative, and the terms described. Request the arrangement in writing and check the start and end dates. Ask how delayed amounts will be handled and what to do if you still cannot pay when the arrangement ends. Keep the letter with your normal account records.

Consumer Financial Protection Bureau guidance encourages direct contact with the servicer and warns against paying an intermediary that promises to negotiate for you. A housing counselor or qualified adviser may help you understand available options. Keep an eye on your mail or account when communications return. A temporary period of relief can be followed by a new deadline or requirement.

SOURCE KEYS CMORTGAGE CSCAM

Verify payment and identity requests independently

After a disaster, impostors may pose as contractors, utility workers, government representatives, or charities. An unsolicited call can sound plausible because it mentions a real storm or a damaged neighborhood. Treat the contact as a lead to verify. Use the official number or website you obtain independently and ask whether the organization actually made the request.

Keep personal and financial details private until you have established the identity and purpose of the request. Be cautious of pressure to pay immediately, promises of guaranteed aid, and unusual payment demands. Record the number, date, claimed organization, and request so you can report suspicious activity through an appropriate channel.

If a household member receives a suspicious message, have them forward the details to a trusted person without engaging the sender. Confirm any real case or account status through its established process. A simple rule for the household is to use known numbers to initiate verification, especially when the incoming contact wants money, identity documents, or access to the property.

SOURCE KEYS CSCAM CFTC CINSPECT

Record a questionable price or charge before reporting it

A disaster can produce price changes, unusual payment terms, and confusion about which protections apply. State and local laws differ, and some protections depend on a declaration or the kind of goods or services involved. Consult your state's attorney general or consumer protection office for the rules that apply to your location and event.

If you want to report a transaction, preserve the advertised price, receipt, business name, location, date, and a brief description of what occurred. Record whether the amount was quoted, charged, or merely reported by another person. Keep photographs or screenshots in their original form if you have them.

A useful complaint supplies enough facts for the office to understand the situation without making an unsupported legal conclusion. Include the outcome you seek and any response you already received from the business. Keep the complaint number and follow-up date. Separate this report from an insurance claim or benefit application even if all three arose from the same incident.

SOURCE KEYS CCONSUMER CFTC

Use written repair terms and staged records

A repair contract should make the work, price, materials, dates, and payment terms understandable before work begins. Check the contractor's identity, license where applicable, and insurance. Ask for references or a verifiable business record. If permits or inspections are required, identify who will obtain them and how you can confirm completion.

Keep the written proposal and signed agreement with the recovery records. If the work changes, ask for a written change describing the scope, price, and schedule. Preserve payment receipts and progress photographs. Discuss any policy requirements with the insurer before making commitments that could affect the claim.

Pressure to sign immediately or pay large amounts upfront deserves a pause. The Federal Trade Commission recommends verification and written terms for disaster repairs. Take the time to compare an unclear offer with the proposed work and obtain help with any assignment or financing term you do not understand. A plain record is valuable if a dispute arises later.

SOURCE KEYS CFTC CNAIC CSCAM

Replace identity and vital records through their issuers

Replacing a document starts with identifying the government or office that issued it. A birth certificate generally comes from the vital records office serving the place of birth. A driver's license or state identification card comes through the relevant motor vehicle agency. Other documents can require separate federal, state, local, or tribal procedures.

Make a replacement list and put the documents you need for other applications first. Record what evidence the issuing agency accepts if the usual identification has also been lost. Check the official fee, method, and mailing address. Keep a copy of requests and receipts in a protected folder.

If displacement makes mail unreliable, ask the issuer which alternate addresses or pickup arrangements it allows. Update the disaster assistance or insurance program if a missing record will delay your response to a request. A short, current list of replacement priorities can save you from sending the same sensitive information to multiple places that cannot help with that document.

SOURCE KEYS CID CUSAID

Close the recovery file with a dated summary

At the end of a recovery phase, review the household's open items. Make a short list of resolved claims, outstanding applications, repair obligations, temporary housing issues, and follow-up dates. Record the source or written confirmation for any decision you will rely on. Keep documents required for ongoing financial, insurance, or legal matters accessible.

Update your plans using what actually happened. Note the first public source that gave reliable instructions, the documents that were hard to obtain, and which services reopened later than expected. Ask each household member what information would have made the first days easier. Select a few concrete changes and assign dates for completing them.

Separate the incident archive from the current household instructions. A map, claim number, or evacuation notice may be valuable evidence of a past event. Current plans should lead with the information verified for use now. That distinction lets you preserve a useful historical record while keeping old instructions from reappearing as current guidance during the next disruption.

SOURCE KEYS CCOOP CUSAID CNAIC

Build a Public Reference Library

Start With Questions You Can Name

An offline library earns its space by answering questions you can pose under ordinary pressure. Imagine that the connection has been gone for two days. You need to read a map scale, compare two public descriptions of a storm warning, or identify which agency publishes a record. Write these questions down before choosing any downloads.

Start with a small core that covers place, public authority, basic science, food, and communications. Keep a state road map and a neighboring-state map if you live near a border. A technical textbook and a readable encyclopedia serve different purposes. The book teaches a subject in sequence. The encyclopedia helps you find a term you heard on the radio.

For each item, record the publisher, coverage, date, file type, and application that opens it. Try one page or entry as soon as it finishes downloading. A collection assembled from actual questions is easier to test than an inventory assembled from promising file names. Later, when you add a subject, add a question that proves the new material has earned its place.

SOURCE KEYS OMAP OGOV OSTAX OZIM

Name the Publisher and the Edition

A useful file carries evidence of where it came from. Create a catalog row with the title used by the publisher, issuing body, original URL, publication or snapshot date, and the date you saved the file. Keep the actual download beside that row. A service that changes the file behind the same link makes those two dates especially important.

Use names you can read in a narrow file window. A title such as State Transportation Map 2025-2026 tells you more at a glance than Map Latest or Download 004. If an issuing agency provides a revised PDF, save it under its revised date and mark it as current in the catalog. Keep the earlier copy only if it helps you compare the changes.

A mirror and an issuing agency have separate roles. The mirror can be a practical place to obtain a large archive. The publisher or project remains the place to confirm what the archive contains. Record both when they differ. During an outage, that little bit of provenance lets another reader assess the document without trying a dead link.

SOURCE KEYS OGOV OWIKI OLIB

Put Local Geography Near the Top

Download a state highway map and the detailed maps of the places your household actually uses. Start with home, a likely meeting area, medical facilities, and more than one route out of your immediate area. Add nearby counties before collecting every county in the state. For topography, the U.S. Geological Survey offers options that include historical maps and newer U.S. Topo products.

A printed road map supports route reading. A topographic sheet helps you interpret terrain and drainage. Write the map date and the approximate area in the catalog so that someone else can find the right sheet quickly. Keep a small overview map as the entry point when you have many detailed sheets.

Make a saved route a planning reference. If an official closure or evacuation instruction changes the route, date the change and identify where the report came from. The original file can still explain the geography. In a drill, locate the same bridge or junction on the overview and detailed sheets. A partner should be able to reproduce your result without opening a web map.

SOURCE KEYS OMAP

Keep a Map That Opens as a Page

One map should work in a normal PDF viewer, even when a specialized mapping program is absent. A state highway PDF or a set of topographic PDFs can fill that role. Download the actual files and open each offline. A saved link to a mapping portal gives you the address of a resource, while a saved map gives you the map itself.

If you keep a geographic data package for QGIS, put it in a separate folder. Open the data locally while connected, remove the network connection, and open the same project again. Confirm that the roads, labels, and layers you need still appear. A base map fetched from the internet can disappear while the rest of the project continues to open.

For a test, choose a road intersection and answer two questions from both formats. Which roads meet there, and which way does the main route continue? Record the title or layer that supported each answer. A reliable PDF gives the household a simple route into the same information if the interactive setup takes longer to start.

SOURCE KEYS OMAP OGIS

Choose a Wikipedia Snapshot Deliberately

Kiwix distributes offline archives as ZIM files. Its catalog provides archives from Wikipedia and other collections. For English Wikipedia, check the archive name, date, and edition before downloading. A full illustrated archive retains figures and photographs that can help with identification or interpretation. A text edition can save storage and transfer time.

As a dated example, Kiwix listed an English illustrated full archive with an August 2026 name and a directory size of 119G. The site listed a June 2026 full text edition at 49G. These figures describe those listed files. Future editions can differ. Compare the present catalog against your available space before starting.

Download through the Kiwix catalog or its official linked distribution. Afterward, open the actual ZIM on the computer you plan to use. Search a local place, a science topic, and a term with a figure. If two snapshots have the same visible title in your reader, label the files by date. Save the date on any note that relies on an article likely to change.

SOURCE KEYS OKIW OZIM OWIKI

Use an Encyclopedia as a Starting Point

An encyclopedia is useful for orientation. It can explain a term, place it among related concepts, and point to original sources. Practice a two-stage search. First find the language you need, then turn to the issuing authority or a suitable textbook for the statement that will guide your decision.

Consider a weather bulletin that uses an unfamiliar geographic term. An encyclopedia entry can supply background on the geography. The issuing weather office supplies the conditions and instructions for the particular event. Keep the two together in a note with separate labels. A date beside the bulletin preserves the difference even when both are read later from the same drive.

When a page links to a source outside the ZIM archive, the reference may still be useful even if it cannot open during the outage. Before the outage, collect a small number of frequently used primary references as independent files. Save enough of each document to retain headings, dates, and qualifying notes. You should be able to explain which source answers the general question and which one answers the immediate question.

SOURCE KEYS OZIM OGOV

Give Textbooks a Defined Job

OpenStax lists freely available textbooks, including titles in physics, chemistry, biology, and introductory statistics. Select a few books that support questions you expect to ask. A physics chapter can help you follow the units on an appliance label. A statistics chapter can help you interpret an average based on only a handful of observations.

Take the edition and title from the book itself, then record the book page rather than only the position reported by a PDF viewer. Viewers count cover pages and other front matter differently from printed page labels. If you want a partner to verify a passage, include the chapter heading with the page number.

Create a simple list of entry points. For example, record one chapter for dimensional analysis, another for electric circuits, and another for measurement uncertainty. Let the table of contents do the work of navigation. Then practice looking up a concept from a question, closing the file, and finding the same page again. Familiarity with a small set of textbooks usually makes it quicker to locate a relevant page under pressure.

SOURCE KEYS OSTAX

Keep Practical Questions Searchable

Practical question-and-answer archives capture examples people struggled to resolve. Gardening, cooking, and home improvement are good topics to search in the Kiwix catalog. Browse a few entries before saving a large collection. Pay particular attention to dates, assumptions, and references provided by the contributors.

The circumstances in a question matter. A gardening answer from a different climate can still explain a useful principle, while its suggested planting date may be a poor match for your county. A discussion about an appliance can help you learn the name of a part even when the question concerns a different model. Write down which part of the answer applies to your situation.

Keep a community answer distinct from an official rule or a tested instruction for a specific item. When your search leads to a high-consequence decision, look for a responsible issuing authority or a qualified professional. During a drill, bring one practical question to the archive and write a short note showing what the discussion helped you understand and what evidence you still need.

SOURCE KEYS OZIM

Keep Nutrition Data Usable

USDA FoodData Central provides downloadable food composition datasets. Its download page describes separate datasets and file formats. A spreadsheet user can begin with the CSV option and the associated documentation. Download a manageable package, extract it to a dated folder, and keep the original compressed file until the working copy opens correctly.

A data package can contain several tables related by identifiers. Test the link between one food entry and its nutrient values before relying on a spreadsheet built from it. Note the quantity, units, and preparation state. A value listed for a particular weight of a dry food answers a different question from a value listed for a portion after cooking.

Make a small reference sheet for foods you actually keep. Include the data release and the portion assumption beside each result. Save the few columns you need in a separate view while preserving the source tables. The smaller sheet is easier to read during an outage, and the complete dataset allows another person to check the calculation later.

SOURCE KEYS OFOOD

Preserve Public Health References Carefully

A medical reference is useful for understanding language and finding questions to bring to a clinician. MedlinePlus makes health-topic data available as XML. Its pages and their referenced websites are different resources. Saving an XML download gives you the data supplied in that package, and testing it locally shows which material is readable in your chosen application.

Some readers will prefer the smaller, directly readable public health PDFs that they have chosen and tested. Catalog the issuing organization, date, population, and scope. A national publication about a general topic can help explain a local notice. The actual notice describes the affected place, dates, and instructions.

For your offline library test, look up a term such as dehydration and then locate the official local alert template or public health notice format you expect to use. Practice reading headings, cautions, and dates aloud. If a relative asks about a new symptom, record observations and seek appropriate care. Keep the health reference as an aid for understanding the conversation, with decisions based on qualified guidance and the circumstances at hand.

SOURCE KEYS OMED

Save Laws With the Place They Apply

Government Publishing Office collections include federal publications and official versions of many legal materials. Keep federal, state, and local documents in separate folders. Within each folder, mark the issuing government, date, and section or chapter. For a state-specific reference, include the state name even if the filename seems obvious to you.

A legal source often has a hierarchy. Preserve the heading, applicable definitions, and neighboring clauses needed to read the section in context. A single sentence can depend on a defined term earlier in the same chapter. When a court document or agency summary explains a rule, save it as a companion and label the type of document.

A statewide emergency order, a county evacuation announcement, and a general preparedness page serve different purposes. Record when and where an order applies. For a drill, open a general resource first, then find one document with a specific jurisdiction and date. A partner should be able to tell which government issued it and which date applies without guessing from the folder name.

SOURCE KEYS OGOV

Use Older Books for the Questions They Answer

Project Gutenberg offers an offline catalog and ways to obtain its ebooks. A broad literature archive gives people something useful to read and preserves cultural references that do not need a live connection. It can also help you locate a historical explanation, a place name, or a work that is cited in a newer source.

An old publication carries the assumptions and vocabulary of its time. Keep the author's name and publication date visible so a reader can judge its place in the collection. For a historical work on agriculture, look for descriptions of a crop or practice and use newer subject references for current decisions. For a novel, the age may be exactly why you saved it.

Choose a handful of important books in formats that open quickly on the computers you already use. Try searching the catalog offline and then open one title without returning to the website. If you save a broad archive, keep a short reading list beside it. The list can bring people to the best starting points without asking them to browse thousands of records.

SOURCE KEYS OGUT

Read the Rights Statement Before Sharing

Downloading for your own reference and redistributing material are distinct uses. A source that permits one may set conditions for the other. Keep the rights statement or license with the item, especially when you expect to share an archive or use material in something you publish. Review the rights on images and other separately credited items as well as on the main text.

Creative Commons Attribution-ShareAlike is an example of a license with conditions that include giving credit and applying the same license to shared adaptations. The U.S. Copyright Office explains that fair use is assessed under multiple factors. A fixed word count or percentage cannot settle every case.

When creating a shareable brief, work from your own outline, cite the source, and express the facts in your own words. If a quotation is necessary, record why the precise wording matters and who wrote it. For a public data table, inspect its documentation before passing it along. A short file beside the material can preserve the license and any credit that a future reader will need.

SOURCE KEYS OCC OCOPY

Keep the Country and the County in View

A nationwide archive gives broad coverage, while a regional packet answers the most likely location questions. Make one shelf for national collections and one for your region. Under the regional shelf, group your state, neighboring states that are relevant to travel, and the local jurisdictions you use most. A coastal household and an inland one can start from the same structure and populate it differently.

Prepare a regional introduction that gives the scope and age of the downloaded maps. Add links to responsible local or state agencies in the catalog, alongside the actual files already saved. When you relocate or take a trip, make a separate regional packet for the destination. This preserves the old packet if you return later.

Test the organization with a person who lives outside your immediate area. Ask them to find a route from the state line to one county and locate a public notice for that county. A good structure helps someone unfamiliar with your local shorthand tell the broad national reference from information that applies to a particular place.

SOURCE KEYS OMAP OGOV

Make PDFs Work for Readers and Search

A searchable PDF generally lets you select and copy words. A scanned image can be readable to your eye while offering little text to the search tool. Test important files by searching a word from a heading that you can see. If search fails, give the catalog a descriptive entry and retain the original page image.

Optical character recognition can make a separate copy easier to search. When you do this, compare a sample of the recognized text to the visible page. Numbers, unit marks, columns, and handwritten notes are good places to check. Keep the untouched file and identify the recognized version so readers know which one to inspect if a value looks wrong.

For important references, also write a short finding aid with the page labels and subjects. A finding aid can take the form of a plain text file with one line per topic. Test it with a simple question and have a partner identify the original page. The system should still work when full-text search is slow or a scanning error breaks an exact phrase.

SOURCE KEYS OLIB ORAG

Set Up a Small, Dated Intake

An archive becomes harder to trust when new downloads enter without dates or sources. Give new material an intake folder. Before promoting anything into your main library, open it, confirm it came from the expected publisher or catalog, and add the catalog entry. Use the same steps for a two-page release and a large collection.

Check for overlap with what you already have. A new edition may cover the same ground as an older one. A narrower bulletin may belong beside a general reference because it describes a particular place or event. Let the catalog show that relationship. If the incoming file appears incomplete, keep it out of the main shelf until you can verify it.

Practice on one update a month for three months. Record the old and new dates, what changed in the catalog, and which copy a second computer can open. This small routine makes the larger drive easier to maintain. It also gives the household a reliable way to add a fresh local document without disturbing material that already works.

SOURCE KEYS OGOV OLIB OZIM

Check an Archive Before Promoting It

Use a small acceptance check as soon as a download is complete. For a book, open the table of contents and a page near the end. For a map, zoom until labels are legible. For a ZIM archive, search for several words and open one result with an illustration if the edition includes images.

Record any unexpected dependency. A desktop reader may have to be installed separately. A saved page may point to images served from elsewhere. A data archive may need to be extracted before you can find the index. Keep a note with the exact steps that worked on the computer you intend to use. Repeat with the network disconnected.

If something fails, label it pending and continue testing the remaining files. A partly prepared file should be easy to spot when someone else opens the collection. For a big download, a small test can spare you a second long transfer. For a safety reference, the test can expose missing pages while the issuing organization is still easy to reach.

SOURCE KEYS OKIW OZIM OLIB

Label What Changes Quickly

Some facts age slowly. The definition of a unit or the shape of a watershed may remain useful for years. Active emergency directions, road status, contact routes, radio schedules, and current officeholders can change much faster. Use different cues for the two classes of information. A dated label is particularly useful on anything that might be mistaken for live information.

A useful catalog field is the reason to check for an update. For a road map, that may be a new published edition. For a local announcement, it could be a specified expiration time. For a radio schedule, it might be a club or network revision. Record the source that would settle the question.

Set a recurring calendar task for the high-change folder and keep the slower references on a simpler schedule. In a drill, show a partner one old bulletin and one current planning reference. Ask which one could establish present conditions. The answer should be visible from the date, the issuing authority, and the description you saved.

SOURCE KEYS OMAP OGOV

Assemble the First Working Shelf

A first shelf can include a local map PDF, a dated Wikipedia ZIM, a selected science textbook, a federal reference, a public health topic, and a plain catalog. Those files exercise several ways of looking up information without requiring a complete library. Start there and let the tests determine what you add next.

Put an entry point near the top of the drive. List the simplest path to each major subject. A short note such as Maps, State Map, county inset is often enough. Include the application needed when a file uses an unfamiliar format. Another person should be able to follow the note without remembering how you built the collection.

Finish with three questions. Ask for a location on the map, a term in the encyclopedia, and the section number of a government reference. Look up the answers with Wi-Fi off. Note which step took the longest. If the longest step was deciding which folder to use, improve the entry point before adding more data. If a source was missing, add it through the intake process.

SOURCE KEYS OKIW OMAP OSTAX OGOV OMED

Make the Drive Work Offline

Select the Hosts Before the Drive

List the computers that might open the library. Record the operating system, processor type, available memory, free storage, power source, and ports for each one. Include a machine somebody else can start. The most powerful computer may be the least useful choice if it depends on a charger or adapter you seldom have nearby.

Decide which tasks must run on every host. A plain text catalog and a PDF map make sensible baseline tests. A full-text index or a larger language model can have a narrower set of supported hosts. Put the host list near the top of the drive and note the last day each machine passed an offline test.

Select the drive and cable against the actual computers. Plug it in, open a file, and confirm that the cable fits securely without a collection of adapters. If you expect to use a second computer, do a real test there too. A compatibility claim on a box helps you choose what to test. The result of the test tells you what the household can rely on.

SOURCE KEYS OFILES OLIB

Estimate Capacity in Useful Pieces

Start with measured or listed file sizes. Separate the library, application installers, language model files, search indexes, and room for staging updates. Add room for an archive that must be extracted and for a second edition while you check the first. A compressed download can occupy less space than the extracted files.

The August 2026 English illustrated Wikipedia listing used the label 119G. That single item is already larger than many small drives. If you plan a large collection, budget for the largest file and the sum of the files. Check the free space shown by the operating system before you begin. Commercial capacity labels and operating-system displays may use different units.

Set a simple storage rule. For example, leave one large archive's worth of working room on the main drive so you can test a replacement before removing the earlier edition. When free space falls below that margin, decide which optional collection can move to a secondary disk. Protect the catalog and the small core even when you trim larger collections.

SOURCE KEYS OWIKI OFILES

Check the File System Before Copying

Large archives make the file system a practical concern. Microsoft lists a roughly 4 GiB single-file limit for FAT32, so that format cannot hold a larger ZIM or model as one file even when it has abundant free space. A file system such as exFAT or NTFS can hold much larger individual files. Verify read and write behavior on every host you intend to use.

Look at the drive's properties or disk information before starting the largest transfer. If you need a different format, copy everything you want to keep to a separate drive and verify the copy first. Formatting removes access to the existing file collection. A blank test drive is a good way to learn the procedure with less consequence.

Confirm the result with a file over 4 GiB and a small document. Open both on the second computer. Write a brief test note back to the drive and read it again on the first computer. These steps reveal whether a machine can both read and update the shelf.

SOURCE KEYS OFILES

Build a Short Directory Tree

A drive with recognizable shelf names reduces the time spent searching for software. Put a plain text entry point at its root. Then give the catalog, maps, references, communications, data, applications, and models separate top-level folders. Keep routine folder names short and the number of nested levels modest.

Use one naming pattern for dated references. A readable title followed by the year or full date is usually enough. Reserve words such as current and retired for a catalog field, where a change does not require renaming many files. Some Windows software still has path-length constraints. Short names and a shallow tree also make it easier to write down a path by hand.

Ask someone else to locate a specific map and a model file using the entry point. Watch which branch they try first. A layout that makes sense only to its builder is difficult to use under pressure. Rename unclear shelves while the library is still small. Then recheck that any application links or saved projects still point to the correct files.

SOURCE KEYS OPATH OLIB

Keep an Ordinary Catalog

Use a catalog that can open without a specialized database. A plain text index can list the essential files. A CSV file can carry a longer inventory and let a spreadsheet sort by subject, jurisdiction, or source date. Keep the fields that will help another reader distinguish one item from the next.

A practical row gives the local path, title, issuer, publication date, source URL, format, and test date. Add license information if the file may be shared. A checksum can occupy a separate field. Keep a short readme with a couple of example rows so a second person understands the columns.

When a file moves, change the catalog entry and test it from the root of the drive. Avoid a machine-specific path when a path relative to the drive root will do. The letter assigned to a removable drive can differ across computers. A short plain-text catalog also remains usable when a spreadsheet application is unavailable. Test both entry points on your backup host.

SOURCE KEYS OLIB

Verify a File With a Hash

A cryptographic hash summarizes the contents of a file. When you calculate the same algorithm on an unchanged copy, the value should match. If a publisher provides a SHA-256 value through a trusted channel, compare it with the value of your downloaded file. A different result calls for checking the file, algorithm, and source before using it.

On Windows, PowerShell can compute a value with Get-FileHash. A command for a file in the current folder is **Get-FileHash -Algorithm SHA256 -LiteralPath ".\example.zim"**. Replace the sample filename with your own. Large archives take time to read. Save the resulting value in your catalog and record the algorithm.

If the publisher supplies no digest, your own value remains useful for checking that later copies match the file you tested. It cannot establish that the publisher supplied that file. Record where the value originated. In a drill, calculate the hash of one large file on two hosts and compare it without copying either version over the other.

SOURCE KEYS OHASH

Save More Than a Web Shortcut

A web shortcut may point to a useful official document, but it leaves the actual content online. Keep the local document beside the source address. For a downloadable PDF or archive, save the publisher's file. For a simple page that you need to read offline, use the browser's print-to-PDF feature and inspect the result.

Open the saved page with the network disconnected. Check whether tables, footnotes, important dates, and surrounding text survived the conversion. If an expandable section was closed during printing, reopen the page while connected and make a more complete copy. Some web features require a separate download or a specialized application.

A public map page can be an exception worth testing early. A screen capture may preserve only one zoom level. A publisher's downloadable map gives you a better chance of preserving the details you need. Keep the shortcut as provenance and mark the saved file as the offline copy. Then make the catalog point first to the thing you can actually open.

SOURCE KEYS OMAP OGOV OLIB

Keep Readers Beside the Data

A data file and the program that interprets it should be prepared as a pair. Save the official installer or standalone package for each important reader. Kiwix lists options for several operating systems. A Windows package cannot serve every other host, so identify the platform in your catalog.

Before an outage, open the application, point it to the local archive, and verify that the expected file loads. If setup requires another component or a driver, complete that step while you still have internet access. Note whether ordinary users can start the reader or need help from an administrator.

Keep separate notes for simple and advanced readers. A PDF can open in the viewer already installed on many machines, whereas a specialized archive or mapping project may depend on a known application version. Preserve the simpler route for the most important references. Store the application package in a location visible from the drive's root and write down which version passed a disconnected test.

SOURCE KEYS OKIW OGIS OLIB

Separate Applications From References

Put executable programs in a dedicated folder and keep books, maps, and datasets elsewhere. This makes it easier for readers to distinguish a document from something they are about to run. It also allows you to update or retire a tool without moving the material that tool opens.

Get applications from the publisher or a release source it identifies. Record the version, architecture, release location, and any published checksum or signature you can verify. A useful catalog entry also shows which hosts have tested the tool and where its local data is stored. Give large archives their own entry rather than treating an installer as proof that the archive is present.

For a quick audit, ask a second person to locate the installer and the matching data file without opening either one. Then launch the approved application and use it to read the data. Keep the test brief and repeatable. This arrangement can help prevent the household from trying a similarly named executable simply because it was left near a familiar book.

SOURCE KEYS OKIW OCISA OKOB

Record the Copy You Can Rebuild

A backup has value when you can restore from it. Keep a second complete copy on a different physical device. Put the top-level catalog and the entry point on both drives. For important documents, confirm that a few files actually open after the copy finishes. A written copy date helps a reader decide which shelf contains the more recent material.

Test one restoration on a spare folder. Choose a small map and one substantial file. Copy each from the backup, open the map, and compare the larger file's hash to the value recorded for that copy. Record the test date and the machine used. Keep a backup physically disconnected when it is not being updated.

A list of original download addresses belongs beside the backups. That list makes the library rebuildable if both drives are lost and connectivity later returns. Include the edition and publisher so you can look for an exact replacement. A current edition may still be worth saving when the earlier one has disappeared. Mark the change in the catalog.

SOURCE KEYS OBACK OHASH OLIB

Check a Copy After an Interrupted Transfer

When a copy is interrupted, leave the source alone while you assess the destination. Mark the destination as incomplete. Check whether the expected total size and filenames are present. If a copy tool reports a skipped or failed file, write down which one it is. A useful report lets you continue with the files you can verify.

For a single large file, compare a hash with the known source when the copy has finished. A file can show the right name and appear in a reader while still containing incomplete material. For a folder of smaller files, check the catalog against the visible contents and open representative examples from different subfolders.

After the check, retest the simple offline entry point. Once the destination is verified, record the date and remove any temporary marker. If the old destination also contains unique work, preserve that material until you have decided which version belongs in the main library. A cautious recovery process keeps two potentially useful copies from turning into one uncertain copy.

SOURCE KEYS OHASH OLIB

Eject the Drive at the End of a Session

An application can still be reading or writing files after its window appears quiet. Close the reader, search indexer, model runtime, and any file-copy window before removing the drive. On Windows, Microsoft recommends using the operating system's safe removal controls before disconnecting external storage.

If the computer reports that the drive is busy, close remaining applications that might be using it. Give an active copy time to finish. Keep the cable connected while the system is completing a known write. When the normal removal control succeeds, disconnect the drive and put the cable where the next user can find it.

Practice closing a session after adding a short note to the catalog. Reconnect the drive and confirm that the note is present. Then read one previously saved file. This routine takes little time and gives you a repeatable end point for the work. During an outage, make it part of closing the laptop and returning the drive to storage.

SOURCE KEYS OEJECT

Verify the Offline Search Path

Use three levels of search. Start with the catalog for titles and places. Use a reader's own index for a ZIM archive or a document collection. Use an individual file's find function when you know the exact term. These levels overlap, and each one gives you a way forward if another is unavailable.

Try a known question on both computers. Find the title in the catalog, open the correct archive or file, and locate the passage. Record whether search looked through titles, full text, or a separate index. A readable file with a broken index remains useful once you can find it by name. A good catalog keeps that route short.

Some search tools build a local index the first time they see a folder. Complete that setup before the drill, then confirm where the index lives and whether a second host needs to build its own. Give indexing work enough time and power. During the drill, use a smaller known shelf first so a long scan does not delay the answer.

SOURCE KEYS OKIW ORAG OLIB

Keep an Update From Breaking the Shelf

Update one part of the library at a time. When you bring in a newer reader, save it beside the tested version until it has passed the same simple checks. Keep a small, stable set of test files for this purpose. An illustrated article, a map PDF, and a document with a table will reveal several ordinary problems.

Apply security updates to a connected system promptly through trusted channels. Treat an outage-readiness rehearsal as a separate task. Run it with the new version after setup and record what changed. If the older and newer applications behave differently, keep notes that identify which version can open which files.

Use a staging folder for each new archive or executable. Add the date and source before moving it to the main shelf. If an update fails, preserve the previously working combination and decide whether the new program needs a later test. A routine that verifies one change at a time makes it easier to tell whether a failure came from the application, data, or host.

SOURCE KEYS OCISA OKIW OLIB

Check File Names on the Spare Host

Different operating systems and applications can treat names differently. A punctuation mark, long path, or unusual character may cause a problem only when you move the drive. Use simple names for the core collection and include enough of the title to recognize it without opening the file.

A good test includes a large archive, a dated PDF, and a folder with several levels. On each intended host, locate each item using the same entry point. Open the files and write a test note back to a scratch folder. If you see a name shortened or changed by software, update the procedure and check the actual source file.

Keep a deliberate exception for titles that need to retain their original names. Record the publisher's title in the catalog, even when the local filename uses a shorter form. This preserves the information needed to locate the original while giving you a path that is easier to use on both machines. The catalog can carry detail that the filename has no room for.

SOURCE KEYS OPATH OFILES OLIB

Make a Small Copy for a Spare Computer

The complete library may be too large or slow for a spare machine. Select a smaller core that covers your region, communications, public authority, and a few essentials. Put it on a separate drive with its own entry point. A useful small copy has enough context to stand on its own and a note showing when it was last checked.

Keep at least one map in PDF form, a short public reference, and a plain text catalog. If you use a small encyclopedia edition, choose it by the questions it can answer. Test the reader on the spare computer and record whether the archive requires a separate application. Reserve room for one new local file during a disruption.

Try the small copy first during a drill. If an answer is missing, write down where the full library would supply it. This helps you decide which large archive deserves a place on the smaller drive. Keep the spare copy proportionate to the machine's useful storage, startup time, and ordinary power supply.

SOURCE KEYS OWIKI OKIW OMAP OLIB

Give the Drive a Physical Home

Choose a place where people can find the drive, its cable, and any tested adapter together. A clear label with the shelf name and copy date can help someone distinguish the current drive from an older copy. Store the backup separately so it is available if the main drive is lost.

Consider how the drive will be used. A drive often plugged into the same computer can have a designated cable and port. A drive that moves among computers benefits from a bag or case that keeps the cable with it. Leave a plain note explaining where the printed entry point and the spare drive live.

Run a retrieval test without giving directions aloud. Ask another person to find the main drive, connect it to a tested host, and open the core catalog. Repeat with the backup. If the first problem is a missing cable, address that before adding more data. If the problem is an unreadable label, improve the label. Physical organization is part of the information system.

SOURCE KEYS OBACK OLIB

Use a Recovery Note After a Failure

If a drive fails to open, begin by identifying the item you need. You may be able to use the backup or a printed map before spending time on the failed device. If time and conditions allow, try the known working cable and the second tested computer. Write down the observed error and which combinations you tried.

Keep a short recovery note on paper and on both drives. Include the location of the backup, the files considered essential, and the last verification date. If the damaged drive might contain the only current copy of something important, set it aside until you can assess recovery options without risking the remaining data.

Use an empty folder on a working device for a restore test. Copy the selected file from the backup, open it, and compare its recorded hash when one is available. Verify the result before replacing any working copy. The recovery note should answer the practical questions a helper will face while the person who built the system is away.

SOURCE KEYS OBACK OHASH

Make the Library Independent of a Network

Do a full handover with the connection off. Start the computer and attach the drive. Open the plain text entry point, a PDF map, a ZIM article, and a sample spreadsheet. If you use a local model, start it as a separate test. Record the steps that required a new application, an online account, or a file on the main computer.

Repeat on the spare host and record the differences. One computer may launch a reader immediately while another needs the tested installer. A title may be indexed on the first computer and require a different route on the second. Keep the shortest working instructions for each.

If a component still reaches outward, identify the specific dependency. You might need the actual PDF, a runtime package, or a data layer that was previously fetched as needed. Add the missing piece while online, then repeat the same disconnected steps. The finished shelf is the collection that passes the test as a system and gives another person a repeatable way to use it.

SOURCE KEYS OKIW OGIS OLMS OLIB

Run a Local Model

Give the Model a Small Job First

A local language model can help you draft a search query, compare two paragraphs, or explain a term in plain language. The first useful setup should do one of those jobs with the internet disconnected. Start with a short text you already understand so you can judge whether the answer reflects the document.

Keep a path to the source that works without the model. Put the library catalog and reader on the same host, and give the model a small excerpt or a specific file. Ask it to identify which line supports the answer. Open that line yourself. For a model with document search, check the passage it retrieved before accepting a summary.

A smooth answer can still contain an invented detail. Treat the model as a drafting and lookup aid, especially when a result concerns safety, current law, health, or equipment. For the first drill, decide in advance what would count as a correct result. A modest success that another person can reproduce is a better basis for the next step than a long, impressive conversation.

SOURCE KEYS OLMS ORAG ONIST

Separate the Runner From the Model

A model file contains numerical weights and associated information. A runner loads a compatible file and handles input and output. In a Windows setup, the runner may be a standalone executable or an installed application. The runner and the model are different downloads, and one cannot stand in for the other.

GGUF is a file format supported by some local runners. Look for compatibility with the particular model family and variant, as well as compatibility with GGUF generally. For each working pair, record the model file name, the runner version, and the computer that passed the test. Store the package where a second person can find it.

Launch the runner, choose the intended model, and confirm that the application actually loads it. Start with a short text prompt. If the model fails to load, record the error and try the previously tested pair before changing unrelated settings. Once it works, shut down the application, disconnect the network, and restart it. This repeat distinguishes a working offline setup from a session that still depended on a download.

SOURCE KEYS OGG OKOB OLMS

Compare File Size With Available Memory

A model's disk size helps you plan the drive. It does not fully describe the memory the running application will need. The model, the conversation, the runner, and other applications all consume resources. A longer input or a more demanding setting can change whether a setup stays responsive.

Begin with a smaller compatible model and a short input. Close unnecessary applications, then observe how long the first answer takes. Try the same input after restarting the computer. Record whether the computer remains responsive enough to open the source document at the same time. A model that occupies almost everything can leave the reader too slow to check the result.

If you have more than one computer, give each host its own tested model choice. Keep the larger model as an option where it has passed a drill. On the smaller host, favor the model that can answer an ordinary question without keeping the computer busy for a long interval. Use the real workload to choose the default.

SOURCE KEYS OGEM OKOB OLMS

Keep a Dated Model Example

A filename gives a reproducible reference for an offline kit. In a November 2026 catalog check, the LM Studio Community repository listed Gemma 4 12B instruction-tuned Q4_K_M at 7.38 GB and Gemma 4 26B A4B instruction-tuned Q4_K_M at 16.8 GB. These are examples of particular converted files, with their own release pages. They are separate from an installer.

The Q4_K_M label identifies a quantized variant. Such a variant reduces the representation size compared with a higher-precision form. The choice affects resources and can affect answer quality. Select from measured use on your own host. A file labeled 12B or 26B can have several downloadable variants, so save the complete name.

Keep the model card and license terms with the file. Record the date you downloaded it and any digest supplied by its distributor. When replacing a model, use the same question set on both versions. Verify the newer result before updating the household's entry point.

SOURCE KEYS O12 O26 OGG OGEM

Test a Standalone Windows Runner

KoboldCpp publishes a standalone executable for Windows that can run compatible GGUF model files. Use its official repository or release page, and record the version you obtained. Save the file with the model it has passed a test with. Where you have several hosts, confirm which executable and settings work on each one.

Launch the runner and load the selected model. Follow the release's local interface instructions, then ask a question that can be answered with a brief excerpt. Confirm that the application is opening the file stored on your drive. If an optional acceleration setting causes problems, return to a known working configuration and test again.

Keep the first run simple. Close the application after the test, disconnect the network, and repeat from the beginning. Make a short startup note with the file names, the location of the local interface, and how to stop the runner. Another person should be able to reproduce the result without installing an unfamiliar package while the network is down.

SOURCE KEYS OKOB OGG

Test an Installed Desktop Runner

LM Studio describes an offline mode for core functions after you have the needed model files. Prepare the application and runtime while online, and use the exact model you expect to have available later. Open a short sample document and observe whether the installed setup can answer a question about it.

Record where the application stores its models and any additional components. Saving the installer on the external drive is useful for recovery, but the operational test should begin from the current host after it has been prepared. Confirm that the model remains visible after an ordinary restart.

Disconnect the network and repeat the test without downloading any components. If a document feature behaves differently from an ordinary chat, record the two results separately. There is value in a basic chat path even if indexing takes more preparation. Write down the simplest successful procedure and save it near the file list. Then have someone who did not configure the tool start it on the same host.

SOURCE KEYS OLMS ORAG

Keep Text Inputs Simple

A short passage gives you a quick way to see what a model is doing. Paste one heading, a paragraph, and the source label into the prompt. Ask a question whose answer is directly stated. Request the exact supporting words and a concise explanation. Check both against the passage.

For a scanned document, verify the visible words before using automatically extracted text. An abbreviation, a decimal point, or a misread zero can change the meaning. If necessary, transcribe the few words you need and note that the excerpt came from the image. For an important value, keep the original visible while you work.

Build a fallback for each important reference. A human-readable PDF and a short plain text finding aid can help when the model cannot use the original format. If the question requires a table, consider working from the table itself. A compact prompt can make errors easier to detect because you can compare the answer with the full evidence on the screen.

SOURCE KEYS ORAG ONIST OLIB

Add Document Search in a Small Batch

Some desktop model applications can search selected local documents and pass relevant excerpts to the model. LM Studio describes a workflow in which documents can be added to a chat and searched when needed. Use a small set first. Select files with clear headings and answerable questions, then compare the returned passages with their originals.

Search and generation are separate stages. If the tool retrieves the wrong paragraph, a fluent answer may faithfully summarize the wrong evidence. If it retrieves the right paragraph, the model can still misstate it. Look at the excerpt before accepting the answer. Record enough of the title and section to find the original.

Add a second batch only after the first gives repeatable results. Keep documents with similar names in separate dated groups when the distinction matters. As a test, ask for a fact that appears in one edition and differs in another. If the model cannot keep the two straight, simplify the question or narrow the selected document set.

SOURCE KEYS ORAG ONIST

Use a Prompt That Preserves the Evidence

Start an evidence-based prompt by identifying the material and asking one direct question. A practical request is to answer from the supplied text, identify the title and page or section, and report any missing detail. Ask the model to separate a direct statement from its own inference.

For a comparison, give each source a label. Ask for one brief row per source and a final line describing any difference. A good result should let you return to either passage without searching a long transcript. If the model invents a reference number or quotes words that are absent, shorten the input and examine the passages yourself.

Save the prompt you can reuse, with a note about the test it passed. Include one question whose answer is deliberately absent. The expected response should identify the gap. This is a useful check for a tool that tends to complete a pattern when evidence is thin. Keep the saved prompt near the sources, where a second reader can see what it was designed to do.

SOURCE KEYS ORAG ONIST

Check a Summary Against Its Document

Read the headings and conclusion of the original before asking for a summary. Then choose two claims in the output that would change a decision. Find their supporting passages in the document. Check dates, quantities, units, and exceptions. A confident answer can omit a qualifying sentence or attach it to the wrong situation.

Ask for page labels and short evidence excerpts. Page numbers alone may refer to a viewer count rather than the printed page. A section heading or visible paragraph can make the result easier to verify. If an excerpt is fabricated, put the model's answer aside and create the summary manually from the original source.

A good household note records who or what issued the source, when it applied, and what remains uncertain. The model can help shape that note after the evidence is clear. In a drill, give the note to a second person and ask them to locate the same passage. Agreement with an original is stronger evidence than agreement between two model answers.

SOURCE KEYS ONIST ORAG

Keep Tables Out of Guesswork

Tables are vulnerable to errors when copied or extracted. A runner may see numbers without their column headings, units, or footnotes. If a table matters, open it in the original PDF or spreadsheet. Identify the row and column by their labels before asking the model to explain any result.

Paste a small, verified subset with units attached to the numbers. Ask the model to repeat the headings before interpreting the values. For a calculation, use a calculator or spreadsheet and record the inputs. The model can help explain the approach while you verify the arithmetic separately.

Try a controlled example from a public dataset. Take two rows with different serving sizes and ask which values can be compared directly. Check the source documentation yourself. If the question depends on a conversion, show each step in the note. The goal is a calculation that another person can reproduce using the source table, even if the model is unavailable when they check it.

SOURCE KEYS OFOOD ONIST

Keep Time and Place in the Prompt

A model cannot know when a saved notice stopped applying simply by reading its topic. Include the publication date and jurisdiction in the prompt. Ask it to state which period and place the document covers. If it merges a general reference with a dated order, give each file an explicit label and ask about one at a time.

An offline model can help explain a saved notice. Current conditions still depend on a current source. If a weather bulletin or road report was saved on a particular day, preserve the timestamp and issuing organization in the note. That information lets a reader tell background from an update.

Use a drill with two sample documents for different states or dates. Ask for the one that applies to the scenario, then open the heading or signature block that establishes the answer. This exercise makes the model's limits visible and also improves the library. Files that are hard for a model to distinguish often need better labels for human readers as well.

SOURCE KEYS OGOV ONIST

Decide Whether You Need Image Input

A model family may offer image input in some configurations. Check the exact model and runner combination rather than relying on the family name. Some conversions use an additional image-related file. Save the model card, the runner instructions, and all components required by the variant that passed your test.

Use a harmless sample image for the first run. A printed street name or a textbook caption gives you a simple way to check what the system read. Compare the answer with the original image. Then turn off networking and repeat. If image handling requires another component, identify it while the publisher's documentation is available.

Keep a text route for the same task. If the model cannot read a map label, type the label and use the PDF viewer. If it has trouble with a diagram, find the caption and associated text. Visual interpretation can help with accessibility and orientation, but a verified reading of the original remains necessary when a detail matters.

SOURCE KEYS OGEM OKOB O12 O26 ONIST

Keep the Interface on the Test Computer

A local web interface can open in a browser on the same computer as its runner. For the household baseline, use the documented local configuration and verify that the browser can reach it with Wi-Fi off. Avoid exposing the interface to other networks simply to make the first test work.

Different tools have different defaults and features. Read the runner's documentation and record the local connection behavior you actually tested. A local interface may still sit beside optional features that depend on online services. Check the model, document reader, and interface as separate components.

Have a second person run the test from a closed session. They should be able to load the model, open the interface, ask a short question, and stop the runner. Save the procedure beside the executable. If the person can complete the task while disconnected, you have a working starting point. Shared network access can remain a separate project with its own deliberate security setup.

SOURCE KEYS OKOB OLMS OOLL

Prepare a Reader-Only Fallback

A model can fail to load for many ordinary reasons. Keep a reader-only path to the same references. For a map, the path begins in the catalog and ends in a PDF viewer. For an encyclopedia article, it begins in the ZIM reader. For a public order, it ends in the downloaded original and its applicability information.

Practice one search without the model. Record the entry point, the useful search terms, and where you found the relevant paragraph. Then ask the model to suggest an alternative search term using only the problem description. You should be able to test the suggestion in the reader rather than trusting it as an answer.

Keep a short sheet of common questions with the shelf and title that usually answer each one. That sheet becomes more valuable when power is scarce or a computer is slow. A working reader and a familiar catalog can deliver much of the benefit of the full system without running an intensive application for every question.

SOURCE KEYS OKIW OLIB ONIST

Keep Local Notes Separate From Sources

An output produced by a model should have a different home from public source files. Give summaries a date, identify the question, and list the originals used. Mark provisional notes while you are still checking them. The separation helps another reader understand whether a statement came from an issuing authority or from the household's interpretation.

Store prompts and useful results as ordinary text where practical. Retain the original page reference with each finding. If a summary changes after someone checks the source, preserve the corrected wording and the reason for the revision. Avoid moving the original into the notes folder when you reorganize.

During a drill, ask a partner to identify one official document and one model-assisted note. Then ask them to find the evidence for a claim in the note. If the note leads back to a different document than you expected, fix the source label. This practice makes the collection easier to audit as more people contribute.

SOURCE KEYS OLIB ONIST

Use Computing Time Where It Helps

A local model may run on the processor or use compatible graphics hardware. Its speed will depend on the system and settings. Measure the useful workload on the actual host. Start the application, answer a short source question, verify the answer, and stop the application. Record the time required for the complete task.

Try the same lookup with a document reader. For a single known detail, direct search may take less time. A model may help when you need to compare several short passages or find a better term. Decide which tasks are worth running while ordinary power is available and which ones can wait during an outage.

Keep a default working session small. Load a single known model and close it when the task is complete. Save only the notes you want to keep. If the host becomes too slow to navigate the source while the model runs, use a smaller model or return to direct search. The measure of success is a checked answer within a practical period.

SOURCE KEYS OKOB OLMS ONIST

Build a Tiny Evaluation Set

Choose five questions before replacing a working model. Include one direct lookup, one comparison, one simple table question, one question with a missing answer, and one request that depends on the date of a source. Record the expected evidence and the correct result. Keep the set small enough to repeat.

Ask both models the same questions using the same source text. Look for correct evidence, clear handling of missing information, and an answer that can be checked. Record time and any software problems separately. A longer response or a newer version does not by itself show improvement.

Repeat the test while disconnected. When the results differ between hosts, save the working combination rather than expecting one instruction sheet to fit all computers. A model that performs well on the test is a reasonable candidate for a familiar task. Reassess it when the documents or the nature of the decision change. The evaluation belongs with the runner and model versions so it can be repeated after an update.

SOURCE KEYS ONIST OLMS

Document the Working Offline Setup

Write a short instruction card for the model setup. Identify the host, drive folder, model file, runner release, startup steps, expected local interface, and shutdown method. Include the date of the last successful disconnected test. Mark optional features separately if they have different requirements.

Put one known prompt and its source beside the card. The prompt should ask something easy to verify. A new user can follow the card, run the test, and check the result without learning every setting. Provide a reader-only route on the same card for cases where the model is slow or unavailable.

Keep the card in plain text and consider a printed copy. If a machine is replaced or an application is updated, test again and record the result. The instructions describe a real configuration rather than a general claim that the software can work offline. A clear card also makes recovery easier if the person who built the library is absent when it is needed.

SOURCE KEYS OKOB OLMS ORAG

Practice Before the Outage

Start With a Clear Test

Choose a task with a visible end. A reader might find a bridge on a regional map, identify the date of a government document, or locate a public reference in the encyclopedia. Use a calm period and tell the participants it is a drill. Take a note of the tools they can use and the information they start with.

The first test should take only a few minutes. Disconnect the test computer from the internet without affecting essential services or other household users. Start from the printed entry point or the catalog. Record the title and page used to answer the question. Leave time for a second reader to reproduce the result.

Afterward, ask what took longest. A missing file, unfamiliar reader, and unclear folder title are different problems. Write down one change and repeat the same task after making it. The test has a clear pass condition when another person can locate and read the right evidence without needing the internet or the builder's memory.

SOURCE KEYS OMAP OGOV OKIW

Make a One-Hour Connection Drill

Set a one-hour period when the household can practice without changing normal care, work, or safety arrangements. Disconnect one test machine. Keep an available route to live help on a separate device. Decide who is participating and what they should do if a real event interrupts the exercise.

Work through three ordinary tasks. Open a map, read a dated public document, and find a science topic in the encyclopedia. Use the folder index rather than browser history. Record whether each item was reachable, understandable, and sufficiently current for the stated question.

Use the final ten minutes to compare notes. A slow search may point to a need for a clearer filename or a smaller starter collection. An apparently useful page may have vanished because it was only a shortcut. List the top problem and assign a time to fix it. Repeat the session on a different host after the change. The time limit keeps the exercise focused on the usefulness of the system.

SOURCE KEYS OKIW OMAP OGOV

Find Your Way on Paper and Screen

Pick a road junction that appears in two map formats. Open the local PDF and locate the junction. Record the map title, edition, direction, and any useful page or grid reference. Then open the printed copy and try to locate the same place using the same description.

Choose a second point just outside the first sheet. Ask a partner to find the adjacent map, identify the overlap, and explain the connection between the two points. The exercise exposes gaps in the sheet selection. It also shows whether the overview map is easy to match to a detailed page.

Complete the drill with the network off and treat the route as a planning example. Avoid turning the exercise into a trip through an unfamiliar area. Record any label that was hard to read, then save a better page or print a closer view while conditions are normal. A second reader should be able to reproduce the result without sharing your memory of the route.

SOURCE KEYS OMAP

Verify a Public Notice Without the Web

Save an ordinary public notice that has a visible issuer, location, date, and period of applicability. Print a short excerpt for the exercise and keep the complete source in the drive. Ask a partner to identify the issuing body and the place named in the notice before summarizing its meaning.

Add an older notice with a similar title. The exercise is to distinguish the records and state which one addresses the scenario. Look for the date, authority, and any superseding language. If the two records describe different places, put their geographic names into the explanation.

Keep the findings in a short note. State the document title, date, scope, and the part that supports the answer. Preserve the distinction between a historical exercise and a live situation. A reliable participant can explain how the conclusion follows from the saved text and name the live authority they would consult if circumstances changed.

SOURCE KEYS OGOV

Test the Weather Information Chain

Use a normal scheduled period to locate your local NOAA Weather Radio information and identify the stations relevant to your area. Write down the source, coverage, and date checked. Try a receiver you already know how to use. Listen and record the time, named location, and type of message in a practice log.

Compare the reception with a dated example saved to the drive. The example can teach the format, including where a location or timing detail appears. The live reception tests whether the household can obtain current information through a different route. Keep the two records marked by date and purpose.

If a current weather event occurs during the drill, give the live situation your attention and suspend the exercise. When conditions are ordinary again, review whether the receiver and its information were easy to find. Add a one-line pointer in the drive catalog and keep the printed station note accessible. The goal is a practiced route to current information and a way to interpret it.

SOURCE KEYS ONWS

Practice Listening With a Record

A spoken report can feel clear until someone asks for the time or place. Choose an ordinary public announcement as a listening exercise. Write down the source, local time, location, and action described. Distinguish the words you heard from anything you inferred. If a field was missing, mark it as unknown.

Read the note aloud to a partner. They should be able to state what happened, where it happened, and which detail still needs confirmation. Compare the account with the original when a recording or published version is available. Correct only the field that was wrong and keep the original time visible.

Use the same short format for a later exercise involving a public document. A printed note or a small text file is enough. The shared format helps the household combine information from several channels without losing where each detail originated. During an actual outage, keep current observations and old examples clearly dated so that both remain interpretable.

SOURCE KEYS ONWS OGOV

Run a Search With Missing Evidence

Prepare one question with an answer and one whose answer is absent from the chosen document. Mark the correct evidence privately before asking a partner or a local model to search. Use short public materials and keep the question precise enough that a lack of evidence is meaningful.

For the answerable question, require a source title and the specific place where it appears. For the missing-answer question, expect a description of the gap and a reasonable next source. The ability to recognize a gap matters when an offline collection is incomplete. A quick guess can look convincing when people cannot check it against a live source.

Review both answers together. If someone answered from memory, compare it with the source and describe the difference between remembering a fact and finding evidence for it. If the model supplied a citation, open it. Add the useful result and missing source to the exercise log. Repeat after changing the library or software.

SOURCE KEYS ONIST ORAG OGOV

Recover a File From the Backup

Choose a safe test folder on a working host. Select a map PDF and a larger archive whose hash you have already recorded. Restore both from the disconnected backup. Open the map and compare the archive's hash. Write down how long the restore took, which cable you used, and where the two restored files now live.

Give a second person the same instructions and ask them to restore a small item. If they cannot distinguish the backup from the main drive, improve the label. If they cannot find a file, make the catalog clearer. End the session by closing the files, ejecting the drive safely, and returning the backup to its storage location.

Avoid overwriting a working library during a drill. A separate test folder leaves a clear boundary between practice and the collection people use. Keep the restore note short enough to follow from paper. Test it again after replacing a drive or changing the folder structure.

SOURCE KEYS OBACK OHASH OEJECT

Open the Library on a Spare Host

Start with a different computer than the one normally used. With its network disconnected, open the entry point, one PDF, and one larger archive. Record any application you had to start or install. If a model is part of the drill, load the tested model after the reader-only path has passed.

Pay attention to the first obstacle. A changed drive letter may break a shortcut. A missing application may require the offline package. A different operating system may need its own prepared reader. Write down the actual obstacle and the shortest route around it. Keep that note next to the host list.

Close the applications and safely remove the drive. Hand the written instructions to a second person and watch them repeat the work. If they are able to find the same source without coaching, the spare host has earned a place in the plan. If it takes too long, put a smaller core library on that machine or choose a more practical host.

SOURCE KEYS OKIW OFILES OEJECT

Work Within a Battery Session

Use a laptop on its ordinary battery for a brief session while conditions are normal. Plan the tasks in order. Begin with a direct lookup, then try one longer task, such as comparing two documents. Record startup time, the time the application stays open, and the battery indication at the beginning and end. Treat the result as a rough observation for that machine and workload.

Compare the session with one that uses a local model. Ask the same question and include the time needed to verify the answer. The comparison should help you decide when to use an ordinary reader and when to spend time and battery on a model.

Plan a shutdown point well before the machine would stop unexpectedly. Save the notes you need, close the applications, and return the drive and cable to their storage place. Write a short reminder about which jobs are quick and which jobs should wait for more available power. Repeat the observation if the host or workload changes.

SOURCE KEYS OLMS OKOB OEJECT

Check a File With Two Readers

Choose a public PDF that contains a table, a map, or a significant footnote. Ask two people to open it on separate machines or with different readers. Give them the same question and ask them to write the page label, section title, and answer. Compare their notes before discussing any differences.

A viewer may show a page position that differs from the printed page label. A scan may show the same words while search behaves differently. If a person found a different row or note, open both versions side by side. Look for differences in layout, edition, or reading instructions.

Improve the catalog with the smallest change that helps. A page title or table label may be enough. Keep the original file as the reference and add any explanation to a separate note. The goal is a question that can be answered consistently across ordinary readers, even if their interfaces display the document differently.

SOURCE KEYS OLIB

Compare a Public Dataset With a Hand Check

Open a small portion of the USDA food composition data or another public dataset you have already cataloged. Pick one food or record with an identifier and a value. Find the data dictionary or field explanation and note the units. Ask a second reader to find the same value starting from the catalog.

If you use a spreadsheet formula or local model to explain the result, check it with a hand calculation or independent calculator. Write the inputs beside the answer. Preserve the source release so you can tell whether a difference comes from the calculation or from an updated table.

For the second test, choose two records with different units or amounts. Require the reader to explain what would have to change before a comparison is meaningful. If the exercise reveals an ambiguous column name, add a note to your local view. Keep the raw dataset intact. This drill makes the library useful for analysis while preserving a simple route back to the data.

SOURCE KEYS OFOOD ONIST

Make a Three-Source Finding

Pick a straightforward subject such as how a topographic contour represents terrain. Choose three different source types. An encyclopedia entry can supply vocabulary, a textbook can explain the concept, and the publisher's map can show it in a specific place. Record the question and the source each person will check.

Ask everyone to write one sentence explaining what their source supports. Bring the notes together and make a single finding. Keep each source attached to the relevant statement. If two sources answer different parts of the question, preserve the distinction. If a source disagrees, inspect its terms and scope before deciding whether the conflict is real.

Use the method on another subject with fewer obvious answers. Start with a small question and end with the evidence you actually found. A good result names a map edition, book chapter, or source title and tells the reader where to look. It also identifies the part that remains uncertain.

SOURCE KEYS OMAP OSTAX OZIM

Walk Through a Continuity Question

Choose a narrow question about who has authority to act under a public rule. Use a fictional scenario with a clearly stated government level and date. Start from the correct government shelf and open the official source. Record the exact section and check any definitions it depends on.

Ask the second participant to identify the separate question of how an office would continue delivering essential services. Keep the legal rule and the operating plan distinct in the notes. A source about succession may answer who can act, while a planning document describes how services are organized. A specific scenario can require evidence from both.

Review which assumptions came from the exercise and which came from the document. If the scenario changes from federal to state or local, restart from the correct jurisdiction. An effective drill demonstrates that the reader can locate a governing text, explain its scope, and identify missing evidence without treating a general explanation as a specific legal determination.

SOURCE KEYS OGOV OCON

Check a Health Reference Without Diagnosing

Pick a public health topic with a clear official reference and use a fictional question. For example, ask which organization published a drinking-water information page and where the page explains its scope. The task is to find and interpret the material. It does not require anyone to choose a treatment or change an actual household practice.

Ask a partner to identify the title, date, and affected audience. Compare the original with any saved model summary. Check whether the summary introduced advice that is absent from the source or left out a limitation. Preserve the exact page reference for later checking.

Then ask what evidence would be needed for a real event. A local notice, current conditions, or advice from a qualified professional may be decisive. Mark that distinction in the exercise notes. The useful result is a reader who can find a public reference quickly, explain what it covers, and recognize when a live authority is required.

SOURCE KEYS OCDC OMED ONIST

Give a New Reader the Entry Point

Find a person who did not help build the archive. Give them the printed entry point, one question, and the computer you expect them to use. Explain how to stop the exercise if something is unclear or if a real need comes up. Then let them work without suggestions for a few minutes.

Observe where they hesitate. They may expect maps under a different folder, look for a browser bookmark, or confuse the application with its data file. Ask them to explain what they expected to happen. Write down their language before offering yours. That language can suggest a clearer title or a better catalog entry.

After one change, repeat with the same question. Give the person enough time to locate the evidence and record the source. A good handover includes both access and comprehension. The other reader should be able to start the system and explain where the answer came from, even if they take a different route through the files.

SOURCE KEYS OLIB OKIW

Schedule the Next Small Test

Choose a repeatable schedule that fits the household. A short monthly check might open the catalog, a map, and one current regional source. A longer seasonal check can include the backup, spare host, and local model. Keep a list of which tests each period includes and how long they normally take.

Record the result as completed, failed, or deferred. For a failed item, write one specific action. A note such as download an updated county map is easier to follow than a general reminder to repair the library. Record who will do the work and when to retest it.

Keep the schedule flexible when ordinary obligations change. A delayed drill can still be useful if it resumes from the last tested state. Preserve old test dates so that someone can judge how current the setup is. A small routine that continues through the year is more useful than an elaborate checklist that nobody has time to open again.

SOURCE KEYS OLIB OBACK

Write a Brief After-Action Note

After a drill, write a one-page account. Include the date, host, expected task, actual result, and changes to make. Put the most important observation first. A practical note might report that the map opened but the reader searched the wrong county because the catalog omitted the state.

Separate observations from conclusions. An observed problem can be reproduced. A suggested cause may still need to be tested. If you change two things at once, write both down and repeat the exercise. A later reader can use the note to understand the evidence behind the change.

Ask another participant to read the note and identify the next step. If they cannot tell what to do, add a more specific action. Put completed notes in a dated folder so the current startup instructions remain uncluttered. The brief review turns practice into a concrete improvement and gives the household a record of what worked without internet access.

SOURCE KEYS OLIB ONIST

Keep a Working Baseline

The baseline is the simplest tested combination of files, reader, host, and backup that the household can use. Write that combination down and give it a date. The complete collection can grow around it. A difficult upgrade or a larger model can wait in staging while the baseline remains available.

Repeat the core test after a major change. Open a map, retrieve a reference, verify a source, and restore one file from the backup. If a model is part of the baseline, add one known question with a documented answer. Record the result on the same sheet. When a change fails, the sheet points you to the combination that last worked.

Share the entry point with the people likely to use it. Explain the purpose of the library and the limits of any dated information. Keep the printed copy in a known place. The result is a practical capability that can be tested again, with the evidence and instructions available to another reader.

SOURCE KEYS OLIB OBACK OKIW ONIST

Radiation decisions and evidence

What a radiation instrument measures

Ionizing radiation is energy capable of changing atoms. Gamma rays are one form. A gamma spectrometer detects some of the gamma photons that reach its sensor and groups the detected events by estimated energy. That measurement can describe a signal in a particular place and time.

A dose-rate display and a count-rate display answer different questions. Counts describe events recorded by that detector. A dose-rate estimate uses the device’s response and calibration to estimate a radiation quantity per unit of time. When recording either, copy the number, unit, and display mode together.

A useful comparison

A reading of 40 counts per second and one of 40 microsieverts per hour share a number but represent different quantities. Even two count-rate values can be difficult to compare when they came from instruments with different sensors.

> A consumer gamma instrument is useful for documenting observations. Radiation emergency decisions belong with current public instructions and qualified assessments.

SOURCE KEYS G05 G09 G19 G01

Get Inside and Stay Informed

In a radiation emergency, get inside the nearest available building promptly. A basement or sturdy masonry building offers better protection when readily available. Any building provides better shelter than staying outside or in a vehicle.

Reduce contact with outdoor air

Close windows and doors. If possible, turn off fans, air conditioners, and forced-air heating that draw air from outdoors, and close fireplace dampers. Go to the basement or center of the building, away from exterior walls and the roof.

If you were outside

Take shelter first. Then take steps to remove possible contamination from clothing and skin. See page 473. Keep children and pets sheltered. Avoid leaving shelter to collect people at other facilities. Schools and care facilities have their own emergency plans.

Stay inside and listen

Plan to stay inside for at least 24 hours unless officials direct otherwise. Monitor official information from shelter. Note the issuing authority, time, affected area, and instruction. If officials direct a later move, follow their timing and route. Take any detector reading you need from your protected location. You can shelter without waiting for a reading.

See also Decontamination, p. 473, and Food, water and medicine, pp. 474–475.

SOURCE KEYS G01 G20 G02

Separate exposure from contamination

A person can be exposed to radiation from a source without taking radioactive material onto the body. Contamination means radioactive material is present where it should not be, including on clothing, skin, or inside the body. The two conditions can occur together.

The distinction helps explain why official directions may cover both sheltering and cleaning. Sheltering reduces exposure to an outside source. Removing radioactive particles can reduce ongoing contact with that material and limit its transfer to other people and rooms.

What a report should say

Record whether the person was outside, when they came in, and whether officials instructed people in that area to decontaminate. Keep that account separate from an instrument reading. A displayed gamma count does not establish whether a person inhaled or swallowed radioactive material.

For symptoms or urgent care needs, seek medical help and describe the circumstances. Emergency responders and public health authorities may provide event-specific directions for assessment and treatment.

SOURCE KEYS G05 G18 G04

Learn the normal background

A gamma detector can register events during an ordinary day. Natural background and measurement conditions vary. A short reading can fluctuate simply because the number of events recorded in a short interval varies. A baseline becomes more useful when the conditions are repeatable.

Choose a regular indoor location. Note the room, surface, detector orientation, and nearby changes. Record the date, local time, the displayed unit, and the length of the observation. Make another observation at the same location under similar conditions on a different day.

When a change appears

Check for a changed position, a different unit, or a different accumulation time. Keep the original readings and write a note about the difference. If a sustained change coincides with an official incident, follow the incident directions and preserve the record for a qualified person.

> Establish a baseline while conditions are ordinary. There is no reason to seek out radioactive objects to make this practice useful.

SOURCE KEYS G05 G06 G09 G10

A short guide to RadiaCode

RadiaCode quick-start

These steps are for the **RadiaCode 100 series**. The app screens can vary across operating systems and releases.

1. Charge the unit. Hold the round button for at least three seconds to turn it on.

2. It starts in **Monitor** mode. Confirm the display shows a reading. You can use the instrument by itself.

3. For a phone display, install the official RadiaCode app beforehand. Enable Bluetooth on the phone and in the detector settings. In the app, open the connection screen, select your unit, and grant the permissions needed to connect.

4. Set the instrument on a stable indoor surface. Record the count rate or dose rate with its unit and the location.

Before relying on it

Try the display and phone connection at home while there is time to troubleshoot. Then try them with internet access off. For the Bluetooth test, leave Bluetooth enabled. Keep the manufacturer’s support page or documentation available for the exact model.

SOURCE KEYS G07 G08 G09 G12

Take a repeatable RadiaCode reading

Use the same detector and setup for comparisons. Choose a normal indoor location, such as a shelf in an interior room. Note the surface, the position of the detector, and which way it faces.

Read the display

Open Monitor mode on the device or the corresponding live display in the app. On the device, hatched digits indicate a low-confidence value. Allow more time for the digits to fill in. If you must record a preliminary reading, mark it as such. Write down the displayed random error when available.

Record the conditions

Write down the number and its unit exactly as shown, such as counts per second or microsieverts per hour. Record the start and end times, and any motion or change of location. Keep readings from the window and the interior shelf separate.

Repeat under the same conditions

If a reading looks unexpected and you can repeat it safely, keep the detector in the same place and orientation. Preserve the original reading and its context. A local reading cannot establish whether it is safe to leave shelter.

See also RadiaCode quick-start, p. 469, and spectrum baseline, p. 471.

SOURCE KEYS G09 G10 G19 G01

Save a RadiaCode spectrum

A spectrum shows detected counts by estimated energy. The device accumulates counts even when another display is open. Opening the Spectrum screen can show counts from an earlier location or session.

Start a fresh indoor baseline

Open Spectrum in the official app. Save or export any existing spectrum you want to keep. Set the detector in its recording position. Use Restart Accumulation, or the corresponding control for your version, and confirm the elapsed timer starts at zero. Keep the detector stationary while it collects counts.

Save and label the record

Record the start time and the elapsed accumulation time shown by the app. Save or export the spectrum with a date, location, and baseline or follow-up label. Note the detector model and orientation. Export labels and formats vary by app. The Windows application supports CSV and XML export.

Compare the records

Use the same setup and comparable accumulation times for a follow-up. Keep the original files and their elapsed times. Treat a software peak label as a lead for expert review. A label alone cannot establish the isotope, the source, or the protective action to take.

See also RadiaCode quick-start, p. 469, and recording a result, p. 472.

SOURCE KEYS G10 G11 G12 G22 G23

Record a result you can explain

A short log can carry more information than a photograph of a display. Include the model, time, location, measurement mode, unit, and the instrument's position. Mark whether you were reading the instrument directly or looking at a saved trace.

Preserve the observation

Keep the original exported file. If you add an annotation, make a copy and describe the change. Write down a battery warning, a disconnect, or a change in display units. An incomplete record is still useful when those limits are visible.

If an official instruction and a local reading seem inconsistent, follow the instruction and save the reading. Agencies may be considering other locations, different radiation pathways, weather conditions, and laboratory measurements. A single household instrument cannot establish personal dose or clear an area.

> The most useful report is specific. Give the value, unit, time, location, and conditions. Leave conclusions about health effects and clearance to qualified officials.

SOURCE KEYS G01 G06 G09 G10 G11

Protective actions after an alert

Remove Possible Contamination

If you were outside and radioactive particles may have settled on you, get to shelter promptly. Carefully remove the outer clothing at the entrance if you can do so without delaying shelter, or just inside.

Separate soiled items

Avoid shaking clothing. Place it in a plastic bag or other sealable container. Put the container well away from people and pets. Set clean clothing aside where it will stay clean, and put it on after washing.

Wash gently

Shower with warm water and plenty of soap if available. Wash hair with shampoo or soap and skip conditioner. Avoid scrubbing or scratching skin. Keep cuts covered when washing. If there is no shower, wash hands, face, and uncovered skin at a sink. If there is no sink, wipe gently with a clean damp cloth or moist wipe and seal the used materials away from people and pets.

Assist others from shelter

Help children or others who cannot wash themselves. Follow official instructions for people and pets, and bring urgent medical needs to responders' attention. Tap water is generally usable for washing after a radiation event unless a separate local restriction prohibits it.

See also Shelter first, p. 466, and Food and water, p. 474.

SOURCE KEYS G02 G20 G03

Choose Food and Water After an Alert

Use food that was indoors and protected, and sealed packaged food. Check refrigerated food separately for spoilage or loss of cooling. Wipe an exposed sealed container with a clean damp cloth before opening, seal the used cloth away from people and pets, and wash your hands. Wait for officials to clear garden produce.

Choose drinking water in order

Use bottled water or other sealed drinks first. If these run out, look for previously stored water protected indoors. A suitable domestic hot-water tank may be an option if its condition and instructions allow it (page 37). For a radiation emergency, CDC advises using tap water to stay hydrated if those alternatives are unavailable. Follow any specific local order that restricts use.

Separate drinking from washing

Boiling does not remove radioactive material. CDC generally allows tap water for decontamination or cleaning during a radiation emergency. A local restriction involving chemical contamination or another hazard can change what is safe for any use.

Record the advisory

Write down the affected water system or area and which uses the order covers. Note when it was issued and who issued it, and save any update that changes or lifts it.

See also Stored water, pp. 28–29, and contamination limits, pp. 31–34.

SOURCE KEYS G03 G01 HWADV HWOTHER HFOOD

Keep Taking Prescribed Medicines

Continue taking your prescribed medicines as directed. CDC says medicine stored indoors is usable during a radiation emergency. If a medicine container was outside and may have dust on it, wipe the outside with a clean damp cloth before opening. Seal the used cloth away from people and pets and wash your hands.

Use potassium iodide only as directed

Potassium iodide, or KI, helps block radioactive iodine from entering the thyroid. It is useful only for certain exposures and people. Take it only when public health or emergency response officials or a healthcare provider instruct you to. Use an FDA-approved product as directed. Iodized salt and iodine supplements cannot substitute for KI.

Keep following protective instructions

Use current instructions for sheltering and any later evacuation. Other medicines for radiation exposure or internal contamination require professional assessment. Keep the person's usual medication list and care instructions nearby.

Record a medicine instruction

Note who issued it, whom it covers, and when it applies. If medicine was damaged, flooded, or stored outside its temperature limits, use the pharmacist or care team's plan for that product (page 164).

See also Shelter first, p. 466, and Decontamination, p. 473.

SOURCE KEYS G03 G04 G21 M03

Environmental reports and your local record

EPA’s RadNet tracks environmental radiation in several media, including air and precipitation. Its online records and summaries help put environmental measurements in a wider context. During an outage, archived material can explain how the network works. Use current local alerts for decisions during an incident.

Keep reports distinguishable

An official report, a media account, and a household detector log are different records. Mark the issuer and date on each. Save the original unit and make clear whether a number is a direct measurement, a reported estimate, or an interpretation.

If officials request observations, send what you can document. The device model, exact location, time, and unit are more valuable than a speculative description of what caused a reading. Follow the reporting channel given for the incident.

> Public instructions take priority. Collecting a better graph can wait until it can be done from safety.

SOURCE KEYS G06 G01 G10

First-hour household drill

Pick a short, ordinary period when everyone who is participating can stop if needed. Announce that power and internet are unavailable for the exercise. Leave utilities and medical equipment in their normal operating state.

Give one person the book and give another a sheet of paper. Ask them to locate the water plan, identify the first health or access concern, and list the next two checks. A third person can act as the household member who arrives late and needs a briefing.

Observe the handoff

At the end, ask the late arrival what they would do first and why. Record where the answer came from. A task that was assigned but never acknowledged deserves a specific owner and check time next time.

Date and conditions

First two checks

Person responsible

Change for the next drill

Water and food inventory exercise

Choose a short exercise period and list the household members and animals it will cover. Use the household water and food chapters to list actual supplies on hand. Include any planned water uses that compete with drinking water, and record the food that depends on refrigeration.

Ask a second person to locate the listed supplies without verbal directions. If an item has to stay in one specific room, mark the place. Look for a food option that uses minimal water and a safe cooking method.

Review what changes by tomorrow

Find the earliest likely shortage and give it a time and an owner. Record what you can obtain without using an uncertain route. Use this page to record gaps and where you found the relevant guidance.

Water on hand and planned uses

Food ready to use

First likely shortage

Source pages or documents

Power budget practice

Choose three loads you would actually run. Record the watts from their labels or a suitable power meter, and estimate the hours you expect each one to run. Write the energy estimate in watt-hours. Note whether any load has a startup demand or runs in cycles.

Identify a protected reserve

Choose a priority load and determine when you would reduce use of the others to preserve capacity. If a load is life-sustaining, use its approved backup arrangement and follow the plan from the equipment provider. Base this practice on observation and arithmetic. Leave fixed wiring and transfer equipment in their normal configuration.

Compare estimates with a normal-day observation. Record any difference that would change the choice of equipment or the next check time.

Load and expected run time

Estimated watt-hours

Priority load and reserve

Measurement to verify

Message relay practice

Write a short simulated message that names an affected place, the time of the observation, and the action requested. Mark the exercise message so nobody mistakes it for a real incident. Use paper or a lawful training channel that participants have agreed on.

Give the message to a second person. Ask them to repeat the important numbers and spell the place if needed. A third person should write what they heard. Compare the original and final versions for changes in names, times, locations, and requests.

Note where the meaning changed

A message can arrive quickly and still give the wrong location. Record which part of the relay produced an error. If the message needs a reply, give the receiver a way to identify the original message by time or number.

Exercise message number and time

Intended recipient

Details changed during relay

Fix to try next time

Offline map practice

Pick two familiar destinations and print or download maps that show enough detail to distinguish turns, crossings, and entrances. Turn off the network connection before starting. Find each destination using only the saved map and the notes already available.

Select an alternate route that takes a different crossing or major road. Mark places where an official closure would change the plan. Practice on paper or in a familiar location under ordinary conditions.

Compare map and ground

A map can show a road whose status has changed. Write down the map’s edition or download date and one reliable source for current closures. Ask a second person to identify the point at which they would stop and reassess.

Map and edition date

Primary route and crossing

Alternate route and decision point

Source for closures

Offline library acceptance test

Cold-start a computer with its network connection off. Open the offline drive and locate a map, a text or PDF document, and a searchable archive. Ask another person to find the same items without a saved browser tab.

If a local model is installed, ask one question with a known answer in a saved document. Require a filename and page or section. Open the source to check what it says. Then ask about a fact that is deliberately absent from the collection. Record what the model did and whether a human reader could recover the answer independently.

Test another computer

Try the drive in a second computer and record which formats and apps worked. Copy the most important documents to a separate storage location and check that they open there.

Computer and date

Source question and verified answer

Missing-fact test

Changes before next test

Public authority verification exercise

Choose a public notice from a real past incident or write a clearly labeled fictional notice. Give a second participant two versions with different timestamps. Ask them to identify the issuer, place covered, and whether the later notice actually changes the earlier instruction.

Find the source hierarchy

Locate a relevant federal or state authority in the continuity chapter. Then find the local source you would use for a public instruction. Record what each source can tell you. A succession law can identify lawful authority. An incident notice gives a current operational instruction for a specified place.

End by writing a short update in plain language. It should say who issued it, who is affected, what action is requested, and when to check again.

Issuer and jurisdiction

Time and affected area

Instruction and update source

What still needs confirmation

RadiaCode baseline worksheet

Choose an ordinary indoor location and use the short device guide beginning on page 469. Keep the instrument in one place and record the reading and unit. If you save a spectrum, give the file a date and a location label and note its accumulation duration.

Review the record a week later

Ask someone to identify the location, unit, and timing from the record alone. Then repeat the observation using the same setup under ordinary conditions. Write down what changed and what stayed comparable. Use no test source. The purpose is to practice the buttons, the log, and the handoff to another reader.

If an incident occurs, follow current public instructions. Keep the baseline for comparison and collect only observations you can make safely from your location.

Date, time and device model

Location and instrument position

Reading, unit and duration

Spectrum filename or observation note

SOURCE KEYS G01 G07 G09 G10

Sources and further reading

Source keys printed beside an entry point to the public documents below.

HCANNING CDC preventing botulism from home-canned foods
https://www.cdc.gov/botulism/prevention/home-canned-foods.html

HCANS USDA damaged canned food
https://ask.fsis.usda.gov/article/Is-food-in-damaged-cans-dangerous

HCLEAN CDC cleaning after disasters
https://www.cdc.gov/natural-disasters/safety/

HCO CDC carbon monoxide prevention during outages
https://www.cdc.gov/natural-disasters/psa-toolkit/avoiding-carbon-monoxide-poisoning.html

HCOMPOST EPA home composting
https://www.epa.gov/recycle/composting-home

HCONTAIN University of Minnesota Extension container plant care
https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/fertilizing-and-watering-container-plants

HDATE USDA date labels on shelf-stable foods
https://ask.fsis.usda.gov/article/Is-the-dating-of-shelf-stable-foods-required-by-federal-law

HDEBRIS EPA managing debris after a natural disaster
https://www.epa.gov/disaster-debris/managing-debris-after-natural-disaster

HFDA FDA food and water during power outages and floods
https://www.fda.gov/food/buy-store-serve-safe-food/food-and-water-safety-during-power-outages-and-floods

HFLOODCROP FDA flood exposure and food crops
https://www.fda.gov/regulatory-information/search-fda-guidance-documents/guidance-industry-evaluating-safety-flood-affected-food-crops-human-consumption

HFOOD US food safety during a power outage
https://www.foodsafety.gov/food-safety-charts/food-safety-during-power-outage

HFOUR US four steps to food safety
https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety

HGWATER University of Minnesota Extension vegetable garden watering
https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/watering-the-vegetable-garden

HHARVEST University of Minnesota Extension harvesting and storing vegetables
https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/harvesting-and-storing-home-garden-vegetables

HHYGIENE CDC hygiene during water emergencies
https://www.cdc.gov/water-emergency/safety/guidelines-for-personal-hygiene-during-an-emergency.html

HKIT FEMA Ready emergency supply checklist
https://www.ready.gov/sites/default/files/2024-05/ready_supply-kit-checklist.pdf

HLEAD EPA healthy gardening and lead in soil
https://www.epa.gov/lead/healthy-gardening-practices-reduce-exposure-lead-contaminated-soil

HLEFT USDA safe handling of leftovers
https://ask.fsis.usda.gov/article/How-do-I-handle-leftovers-safely

HMARKET USDA Local Food Directories
https://www.ams.usda.gov/services/local-regional/food-directories-listings

HMOLD CDC mold cleanup after disasters
https://www.cdc.gov/natural-disasters/psa-toolkit/8-tips-to-cleanup-mold.html

HFPO FDA | Power Outages: Key Tips for Consumers About Food Safety
https://www.fda.gov/food/food-safety-during-emergencies/power-outages-key-tips-consumers-about-food-safety

Sources and further reading

Source keys printed beside an entry point to the public documents below.

HOLDER **FEMA Ready disaster preparedness for older adults**
https://www.ready.gov/sites/default/files/2023-09/ready-gov_disaster-preparedness-guide-for-older-adults.pdf

HPEST **University of Minnesota Extension home pesticide safety**
https://extension.umn.edu/garden-and-home/home-maintenance/home-maintenance-and-safety/pesticide-safety-in-the-home

HPETS **FEMA Ready pet disaster preparation**
https://www.ready.gov/sites/default/files/2023-06/ready.gov_prepare-pets-for-disasters.pdf

HPROD **FDA selecting and serving fresh produce**
https://www.fda.gov/media/77178/download?attachment=

HSEED **University of Minnesota Extension vegetable seed saving**
https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/saving-vegetable-seeds

HSEPTIC **EPA septic systems after a flood**
https://www.epa.gov/ground-water-and-drinking-water/septic-systems-what-do-after-flood

HSHELF **USDA meaning of shelf-stable food**
https://ask.fsis.usda.gov/article/What-does-shelf-stable-mean

HSTORMFOOD **FDA food safety after storms and flooding**
https://www.fda.gov/food/food-safety-during-emergencies/after-storm-or-flooding-key-tips-consumers-about-food-safety

HTEMP **US safe minimum internal cooking temperatures**
https://www.foodsafety.gov/food-safety-charts/safe-minimum-internal-temperatures

HTHAW **USDA safe thawing methods**
https://ask.fsis.usda.gov/article/How-do-you-thaw-food-safely

HVEG **University of Minnesota Extension vegetable garden planning**
https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/planting-the-vegetable-garden

HWADV **CDC drinking water advisories**
https://www.cdc.gov/water-emergency/about/drinking-water-advisories-an-overview.html/

HWCARD **CDC print reference for emergency water treatment**
https://www.cdc.gov/water-emergency/media/pdfs/make-water-safe-during-emergency-p.pdf

HWELL **EPA private wells after a flood**
https://www.epa.gov/privatewells/what-do-your-private-well-after-flood

HWOTHER **CDC finding clean water during an emergency**
https://www.cdc.gov/water-emergency/about/how-to-find-clean-water-in-an-emergency.html

HWSTORE **CDC creating and storing emergency water**
https://www.cdc.gov/water-emergency/about/how-to-create-and-store-an-emergency-water-supply.html

HWTREAT **CDC making water safe in an emergency**
https://www.cdc.gov/water-emergency/about/

HZONE **USDA Plant Hardiness Zone Map interpretation**
https://planthardiness.ars.usda.gov/pages/how-to-use-the-maps

P01 **U.S. Department of Energy, Energy Efficiency at Home, appliance consumption**
https://www1.eere.energy.gov/education/pdfs/lesson301.pdf

P02 **FEMA Ready.gov, power outage information sheet**
https://www.ready.gov/sites/default/files/2024-08/ready.gov_power-outage_info-sheet.pdf

Sources and further reading

Source keys printed beside an entry point to the public documents below.

P03 U.S. Department of Energy, solar and resilience basics
https://www.energy.gov/cmei/systems/solar-and-resilience-basics

P04 U.S. Department of Energy, homeowner's guide to solar
https://www.energy.gov/cmei/systems/homeowners-guide-solar

P05 National Laboratory of the Rockies, PVWatts solar production calculator
https://pvwatts.nlr.gov/

P06 CDC, safe use of a generator
https://www.cdc.gov/natural-disasters/psa-toolkit/use-a-generator-safely.html

P07 U.S. Consumer Product Safety Commission, portable generator hazards
https://www.cpsc.gov/s3fs-public/portable-generator-hazards-047.pdf

P08 OSHA, grounding requirements for portable generators
https://www.osha.gov/sites/default/files/publications/GROUNDING_PORT_GENERATOR.pdf

P09 U.S. Fire Administration, lithium-ion battery fire safety
https://www.usfa.fema.gov/blog/lithium-ion-batteries/

P10 U.S. Environmental Protection Agency, used lithium-ion batteries
https://www.epa.gov/recycle/used-lithium-ion-batteries

P11 U.S. Food and Drug Administration, food and water safety during outages and floods
https://www.fda.gov/food/buy-store-serve-safe-food/food-and-water-safety-during-power-outages-and-floods

P12 U.S. Consumer Product Safety Commission, recall search
https://www.cpsc.gov/Recalls

P13 FEMA, public warning templates including downed power lines
https://www.fema.gov/sites/default/files/documents/fema-resilience-mdd-based-ipaws-message-template-10-10-2024.pdf

P14 U.S. Consumer Product Safety Commission, extension cord product recalls
https://www.cpsc.gov/Recall-Products/Extension-Cords

P15 CDC, carbon monoxide poisoning basics
https://www.cdc.gov/carbon-monoxide/about/

P16 U.S. Consumer Product Safety Commission, protect your family from carbon monoxide
https://www.cpsc.gov/safety-education/safety-education-centers/carbon-monoxide-information-center/protect-your-family-from-carbon-monoxide-poisoning--

P17 OSHA, using portable generators safely
https://www.osha.gov/sites/default/files/publications/OSHA3286.pdf

P18 CDC, protecting yourself from electrical hazards after a disaster
https://www.cdc.gov/natural-disasters/response/what-to-do-protect-yourself-from-electrical-hazards.html

P19 Federal Trade Commission, avoiding weather-related disaster scams
https://consumer.ftc.gov/consumer-alerts/2025/01/four-ways-avoid-scams-after-weather-related-disaster

P20 U.S. Environmental Protection Agency, household hazardous waste
https://www.epa.gov/hw/household-hazardous-waste-hhw

P21 U.S. Consumer Product Safety Commission, consumer incident reporting
https://www.cpsc.gov/About-CPSC/Division-of-Field-Operations/FAQs-For-Consumers

M01 CDC Personal Needs
https://www.cdc.gov/prepare-your-health/take-action/personal-needs.html

Sources and further reading

Source keys printed beside an entry point to the public documents below.

M02 CDC Power Sources

https://www.cdc.gov/prepare-your-health/take-action/power-sources.html

M03 FDA Safe Drug Use After a Natural Disaster

https://www.fda.gov/drugs/emergency-preparedness-drugs/safe-drug-use-after-natural-disaster

M04 FDA Insulin Storage in an Emergency

https://www.fda.gov/drugs/emergency-preparedness-drugs/information-regarding-insulin-storage-and-switching-between-products-emergency

M05 CMS Disaster Preparedness for Dialysis Facilities

https://www.cms.gov/medicare/provider-enrollment-and-certification/surveycertemergprep/downloads/guide-for-chronic-dialysis-facilities-all-hazards.pdf

M06 CDC Infant Feeding in Emergencies

https://www.cdc.gov/infant-feeding-emergencies-toolkit/php/faqs.html

M07 CDC Hurricanes, Floods and Pregnancy

https://www.cdc.gov/pregnancy/during/emergency-preparedness.html

M08 CDC Stay Connected

https://www.cdc.gov/prepare-your-health/plan-ahead/stay-connected.html

M09 CDC Preventing Spread of Respiratory Viruses When Sick

https://www.cdc.gov/respiratory-viruses/prevention/precautions-when-sick.html

M10 FEMA Preparedness for People with Disabilities

https://www.ready.gov/sites/default/files/2020-03/preparing-makes-sense-for-people-with-disabilities_0.pdf

M11 U.S. Department of Justice ADA Emergency Planning

https://www.ada.gov/topics/emergency-planning/

M12 SAMHSA Coping Tips for Disasters

https://www.samhsa.gov/mental-health/disaster-preparedness/coping-tips

M13 American Red Cross First Aid Steps

https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps

M14 American Red Cross CPR Steps

https://www.redcross.org/take-a-class/cpr/performing-cpr/cpr-steps

M15 American Red Cross AED Steps

https://www.redcross.org/take-a-class/aed/using-an-aed/aed-steps

M16 American Red Cross Life-Threatening External Bleeding

https://www.redcross.org/take-a-class/resources/learn-first-aid/bleeding-life-threatening-external

M17 American Red Cross Burns

https://www.redcross.org/take-a-class/resources/learn-first-aid/burns

M18 American Red Cross Shock

https://www.redcross.org/take-a-class/resources/learn-first-aid/shock

M19 American Red Cross Severe Allergic Reaction

https://www.redcross.org/take-a-class/resources/learn-first-aid/allergic-reaction-anaphylaxis

M20 CDC Stroke Signs and Symptoms

https://www.cdc.gov/stroke/signs-symptoms/index.html

M21 American Heart Association Heart Attack Warning Signs

https://www.heart.org/en/health-topics/heart-attack/warning-signs-of-a-heart-attack

M57 American Heart Association and American Academy of Pediatrics | 2025 Pediatric Basic Life Support

https://cpr.heart.org/en/resuscitation-science/cpr-and-ecc-guidelines/pediatric-basic-life-support

M58 American Red Cross | How to Perform Child and Baby CPR

https://www.redcross.org/take-a-class/cpr/performing-cpr/child-baby-cpr

Sources and further reading

Source keys printed beside an entry point to the public documents below.

M22 CDC First Aid for Seizures
https://www.cdc.gov/epilepsy/first-aid-for-seizures/

M23 CDC Treatment of Low Blood Sugar
https://www.cdc.gov/diabetes/treatment/treatment-low-blood-sugar-hypoglycemia.html

M24 CDC HEADS UP Concussion Signs
https://www.cdc.gov/heads-up/signs-symptoms/

M25 CDC Tetanus and Wound Management
https://www.cdc.gov/tetanus/hcp/clinical-guidance/

M26 CDC Carbon Monoxide Poisoning Basics
https://www.cdc.gov/carbon-monoxide/about/index.html

M27 Poison Control Emergency Assistance
https://www.poison.org/need-immediate-assistance

M28 CDC Heat and Your Health
https://www.cdc.gov/extreme-heat/prevention/

M29 CDC Heat-Related Illnesses
https://www.cdc.gov/natural-disasters/media/pdfs/2026/09/Heat_Related_Illness-NEWLOGO.pdf

M30 CDC Preventing Hypothermia
https://www.cdc.gov/winter-weather/prevention/index.html

M31 National Weather Service Severe Weather Preparedness
https://www.weather.gov/ind/preparedness

M32 EPA Indoor Air Filtration
https://www.epa.gov/wildfires/indoor-air-filtration

M33 FEMA Are You Ready
https://www.ready.gov/sites/default/files/2021-11/are-you-ready-guide.pdf

M34 American Red Cross Adult and Child Choking
https://production.redcross.org/take-a-class/learn-fa-adult-child-choking.html

M35 American Red Cross Head, Neck, and Spinal Injury
https://www.redcross.org/take-a-class/resources/learn-first-aid/head-neck-spinal-injury

M36 American Red Cross First Aid Training Reference
https://www.redcross.org/content/dam/redcross/training-services/no-index/First%20Aid-CPR-AED-Participant%27s-Manual.pdf

M37 National Weather Service Snow Squalls
https://www.weather.gov/safety/winter-snow-squall

M38 National Weather Service Tornado Safety
https://www.weather.gov/pub/pnstornadosafety

M39 National Weather Service Lightning Tips
https://www.weather.gov/safety/lightning-tips

M40 National Weather Service Flooded Roads
https://www.weather.gov/tsa/hydro_tadd

M41 EPA Creating a Cleaner Air Room
https://www.epa.gov/wildfires/how-create-cleaner-air-room-home

M59 American Heart Association | 2025 Adult Basic Life Support
https://cpr.heart.org/en/resuscitation-science/cpr-and-ecc-guidelines/adult-basic-life-support

Sources and further reading

Source keys printed beside an entry point to the public documents below.

M42 AirNow Wildfire Smoke Guidance
https://www.airnow.gov/wildfires/when-smoke-is-in-the-air/

M43 FEMA Wildfire Information Sheet
https://www.ready.gov/sites/default/files/2024-08/ready-gov_wildfire_info-sheet.pdf

M44 National Weather Service Watch and Warning Criteria
https://www.weather.gov/cle/criteria

M45 National Weather Service During a Winter Storm
https://www.weather.gov/safety/winter-during

M46 National Weather Service Wind Chill and Winter Safety
https://www.weather.gov/grb/wintersafety

M47 National Weather Service Flash Flood Safety
https://www.weather.gov/media/fwd/safety_rules_lists.pdf

M48 AirNow Air Quality Index Basics
https://document.airnow.gov/air-quality-index-aqi-basics.pdf

M49 CDC Wildfires and Wildfire Smoke
https://www.cdc.gov/wildfires/safety/how-to-safely-stay-safe-during-a-wildfire.html

M50 American Red Cross Disaster Shelters
https://www.redcross.org/get-help/disaster-relief-and-recovery-services/find-an-open-shelter.html

M51 FEMA Prepare Your Pets for Disasters
https://www.ready.gov/sites/default/files/2023-06/ready.gov_prepare-pets-for-disasters.pdf

M52 U.S. Department of Justice ADA Service Animals
https://www.ada.gov/topics/service-animals/

M53 CDC Returning Home After a Natural Disaster
https://www.cdc.gov/natural-disasters/safety/returning-home-after-natural-disaster.html

M54 FEMA Preparedness Tips for People with Disabilities
https://www.ready.gov/sites/default/files/2023-05/ready.gov_disabilities_bookmark_front-back.pdf

M55 U.S. Fire Administration Home Fire Escape Plans
https://www.usfa.fema.gov/prevention/home-fires/prepare-for-fire/home-fire-escape-plans/

R97 FCC amateur radio rules, 47 CFR Part 97
https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97

RARES ARRL, Amateur Radio Emergency Service
https://www.arrl.org/ARES

RARRL ARRL, What Is Ham Radio?
https://www.arrl.org/what-is-ham-radio

RBAND ARRL, Amateur Radio Band Plan
https://www.arrl.org/band-plan

RCHART ARRL, U.S. Amateur Radio Frequency Allocation Charts
https://www.arrl.org/graphical-frequency-allocations

RDECL NOAA National Centers for Environmental Information, Magnetic Declination
https://www.ncei.noaa.gov/products/magnetic-declination

Sources and further reading

Source keys printed beside an entry point to the public documents below.

RFHWA **Federal Highway Administration, National Traffic and Road Closure Information**
https://highways.fhwa.dot.gov/traffic-info

RFLOOD **National Weather Service, During a Flood**
https://www.weather.gov/safety/flood-during

RFRS **FCC Family Radio Service rules, 47 CFR Part 95 Subpart B**
https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-95/subpart-B

RGEO **Geofabrik, U.S. OpenStreetMap Download Directory**
https://download.geofabrik.de/north-america/us.html

RGMRS **FCC General Mobile Radio Service rules, 47 CFR Part 95 Subpart E**
https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-95/subpart-E

RGPS **GPS.gov, Global Positioning System Overview**
https://www.gps.gov/gps

RICS **FEMA Emergency Management Institute, Incident Command System Forms**
https://training.fema.gov/emiweb/is/icsresource/icsforms/

RIPAWS **FEMA, Integrated Public Alert and Warning System Fact Sheet**
https://www.fema.gov/sites/default/files/documents/fema_how_to_sign_up_for_ipaws_2024.pdf

RN0NWS **Southwest Missouri Emergency Repeater Network and Regional Repeater File**
https://n0nws.com/

RNPS **National Park Service, Ten Essentials**
https://www.nps.gov/articles/10essentials.htm

RNTS **ARRL, National Traffic System**
https://www.arrl.org/nts

RNWR **National Weather Service, NOAA Weather Radio**
https://www.weather.gov/nwr/

RNWRM **National Weather Service, Weather Radio and SAME Receiver Information**
https://www.weather.gov/mob/nwr

RNWRS **National Weather Service, NOAA Weather Radio Station Listing**
https://www.weather.gov/nwr/station_listing

RQGIS **QGIS Download Center**
https://qgis.org/download/

RREADY **FEMA Ready, Know Your Alerts and Warnings**
https://www.ready.gov/sites/default/files/2020-03/ready_know-your-alerts-and-warnings.pdf

RREPEAT **ARRL, Phone Patch and HF/VHF/UHF Operating Guidelines**
https://www.arrl.org/phone-patch-guidelines

RRF **ARRL, Amateur Radio RF Exposure**
https://www.arrl.org/rf-exposure

RSKYWARN **National Weather Service, SKYWARN**
https://www.weather.gov/skywarn/

RSYMBOL **USGS, US Topo Cartographic Specifications and Map Symbols**
https://www.usgs.gov/ngp-standards-and-specifications/us-topo-cartographic-specifications-map-symbol-guide

Sources and further reading

Source keys printed beside an entry point to the public documents below.

RTOPO **USGS, Topographic Maps**
https://www.usgs.gov/programs/national-geospatial-program/topographic-maps

RTOPOGET **USGS, Finding and Downloading Topographic Maps**
https://www.usgs.gov/faqs/how-do-i-find-download-or-order-topographic-maps

RWEA **National Weather Service, Wireless Emergency Alert Message Examples**
https://www.weather.gov/wrn/wea360

RWW **National Weather Service, Watch, Warning and Advisory Reference**
https://www.weather.gov/media/twc/FAguide.pdf

CADA **U.S. Department of Justice - Accessible Emergency Planning**
https://www.ada.gov/topics/emergency-planning/

CAMEND **National Archives - Constitutional Amendments 11-27**
https://www.archives.gov/founding-docs/amendments-11-27

CAPPEAL **FEMA - Appealing an Individual Assistance Decision**
https://www.fema.gov/print/pdf/node/691403

CBASE **National Archives - Constitution Transcription**
https://www.archives.gov/founding-docs/constitution-transcript

CCERT **FEMA - Community Emergency Response Team Training**
https://www.ready.gov/sites/default/files/2019.CERT_.Basic_.IG_.FINAL_.508c.pdf

CCONG **Congressional Research Service - Continuity of Congressional Representation**
https://www.congress.gov/crs_external_products/R/PDF/R40628/R40628.9.pdf

CCONSUMER **USAGov - State Consumer Protection Offices**
https://www.usa.gov/state-consumer

CCOOP **FEMA - Continuity Guidance Circular, 2024 Update**
https://www.fema.gov/sites/default/files/documents/fema_continuity-guidance-circular_082024.pdf

CCOURTS **U.S. Courts - Court Contact and Finder**
https://www.uscourts.gov/contact-us

CDCPLAN **District of Columbia HSEMA - District Response Plan**
https://hsema.dc.gov/sites/default/files/dc/sites/hsema/page_content/attachments/District%20Response%20Plan.pdf

CDECL **FEMA - Disaster Declaration Process Timeline**
https://www.fema.gov/sites/default/files/documents/declaration-process-timelines.pdf

CDRC **FEMA - Disaster Recovery Center Locator**
https://egateway.fema.gov/ESF6/DRCLocator

CELECT **U.S. Election Assistance Commission - State Election Directory**
https://www.eac.gov/voters/register-and-vote-in-your-state

CFCD **FEMA - Federal Continuity Program Management Requirements**
https://www.fema.gov/sites/default/files/documents/fema_oncp_fcd-federal-executive-branch-continuity-program-management-requirements.pdf

CFEMADIS **FEMA - Disaster Declarations Data**
https://gis.fema.gov/arcgis/rest/services/FEMA/DECs/MapServer/0

CFEMAIHP **FEMA - Individuals and Households Application Process**
https://www.fema.gov/print/pdf/node/686989

Sources and further reading

Source keys printed beside an entry point to the public documents below.

CFEMAPA **FEMA - Public Assistance Overview**

https://www.fema.gov/sites/default/files/2020-09/public-assistance-fact-sheet.pdf

CFEMARUMOR **FEMA - Disaster Rumor Response and Volunteer Coordination**

https://www.fema.gov/print/pdf/node/685870

CFIFTH **U.S. Court of Appeals for the Fifth Circuit - Closings and Emergency Filings**

https://www.ca5.uscourts.gov/about-the-court/general-information/hours-of-operation

CFLOODCDC **CDC - Returning Home After a Flood**

https://www.cdc.gov/natural-disasters/psa-toolkit/returning-home-after-a-flood.html

CFLOODCLAIM **National Flood Insurance Program - Document Flood Damage**

https://www.floodsmart.gov/recover/document-damage

CFTC **Federal Trade Commission - Avoiding Disaster Scams**

https://consumer.ftc.gov/consumer-alerts/2025/01/four-ways-avoid-scams-after-weather-related-disaster

CGUIDE **FEMA - Continuity of Government for State, Local, Tribal, and Territorial Governments**

https://www.in.gov/dhs/files/FEMA-Guide-Continuity-For-State-Local-Tribal-Territorial-Governments-July-2021.pdf

CICS **FEMA Emergency Management Institute - Incident Command System Forms**

https://training.fema.gov/emiweb/is/icsresource/icsforms/

CID **USAGov - Replacing Lost Identification and Vital Documents**

https://www.usa.gov/replace-vital-documents

CINSPECT **FEMA - What to Expect from Housing Inspectors**

https://www.fema.gov/print/pdf/node/696405

CIPA **FEMA - Integrated Public Alert and Warning System Overview**

https://www.fema.gov/sites/default/files/documents/fema_ncp-ipaws-101_slicksheet.pdf

CKS125 **Kansas Legislature - K.S.A. 75-125 Gubernatorial Vacancies**

https://www.kslegislature.gov/b2025_26/laws/075_000_0000_chapter/075_001_0000_article/075_001_0025_section/075_001_0025_k

CKSART12 **Kansas Legislature - Emergency Interim Executive and Judicial Succession**

https://kslegislature.gov/b2025_26/laws/048_000_0000_chapter/048_012_0000_article/

CKSART13 **Kansas Legislature - Emergency Interim Legislative Succession**

https://www.kslegislature.gov/b2025_26/laws/048_000_0000_chapter/048_013_0000_article/

CKSCON **Kansas Revisor of Statutes - Kansas Constitution Article 1 Section 11**

https://ksrevisor.gov/kanconst/093_001_0011.html

CKSEO **Kansas Register - Executive Order 23-03 on Continuity Planning**

https://sos.ks.gov/publications/Register/Volume-42/Issues/Issue-31/08-03-23-51367.html

CMORTGAGE **Consumer Financial Protection Bureau - Mortgage Payments After a Disaster**

https://www.consumerfinance.gov/ask-cfpb/what-do-i-do-if-my-house-was-damaged-or-destroyed-or-if-im-unable-to-make-my-payment-after-a-disaster-en-1521/

CNAIC **National Association of Insurance Commissioners - Post-Disaster Claims**

https://content.naic.org/sites/default/files/inline-files/Claim%20Disaster%20Guide%20-%20Generic%20FINAL%207%2023%202019_0.pdf

CREADY **Ready.gov - Hazard Information Sheets**

https://www.ready.gov/sites/default/files/2024-03/ready-gov_full-suite_hazard-info-sheets.pdf

CRED **American Red Cross - Contact and Locate Loved Ones**

https://www.redcross.org/get-help/disaster-relief-and-recovery-services/contact-and-locate-loved-ones.html

Sources and further reading

Source keys printed beside an entry point to the public documents below.

CSBA **U.S. Small Business Administration - Disaster Loan Assistance**
https://www.sba.gov/disaster/

CSCAM **Consumer Financial Protection Bureau - Scams After a Disaster**
https://www.consumerfinance.gov/ask-cfpb/how-do-i-avoid-scams-and-fraud-after-a-disaster-en-1529/

CSCHOOL **U.S. Department of Education - School District Emergency Operations**
https://www.ed.gov/media/document/rems-role-of-districts-developing-high-quality-school-emergency-operations-plans-2019-113293.pdf

CSTATE **USAGov - State Emergency Management Agencies**
https://www.usa.gov/state-emergency-management

CTRIBE **FEMA - Tribal Declarations Interim Guidance**
https://www.fema.gov/sites/default/files/documents/fema_tribal-declarations-interim-guidance_2024.pdf

CUSAID **USAGov - Applying for Disaster Assistance**
https://www.usa.gov/disaster-assistance

CUSC **Office of the Law Revision Counsel - 3 U.S.C. Section 19**
https://uscode.house.gov/us/usc/119-136/t3/s19/

CVOL **FEMA - Managing Spontaneous Volunteers**
https://www.fema.gov/pdf/donations/ManagingSpontaneousVolunteers.pdf

CWHOLE **FEMA - Whole Community Preparedness**
https://training.fema.gov/emiweb/is/is909/preparedness_handoutsmaster.pdf

O12 **LM Studio Community Gemma 4 12B Q4_K_M file listing**
https://huggingface.co/lmstudio-community/gemma-4-12B-it-GGUF/blob/main/gemma-4-12B-it-Q4_K_M.gguf

O26 **LM Studio Community Gemma 4 26B A4B Q4_K_M file listing**
https://huggingface.co/lmstudio-community/gemma-4-26B-A4B-it-GGUF/blob/main/gemma-4-26B-A4B-it-Q4_K_M.gguf

OBACK **CISA joint advisory on offline backups and resilience**
https://www.cisa.gov/sites/default/files/publications/AA22-110A_Joint_CSA_Russian_State-Sponsored_and_Criminal_Cyber_Threats_to_Critical_Infrastructure_4_20_22_Final.pdf

OCC **Creative Commons Attribution-ShareAlike 4.0 license deed**
https://creativecommons.org/licenses/by-sa/4.0/

OCDC **CDC emergency drinking-water reference**
https://www.cdc.gov/water-emergency/about/index.html

OCISA **CISA software updates tip sheet**
https://www.cisa.gov/sites/default/files/2024-09/Secure-Our-World-Software-Updates-Tip-Sheet.pdf

OCON **National Archives transcription of constitutional amendments 11-27**
https://www.archives.gov/founding-docs/amendments-11-27

OCOPY **U.S. Copyright Office fair use questions**
https://www.copyright.gov/help/faq/faq-fairuse.html

OEJECT **Microsoft guidance on safely removing hardware in Windows**
https://support.microsoft.com/en-gb/windows/hardware/safely-remove-hardware-in-windows

OFILES **Microsoft comparison of Windows file systems**
https://learn.microsoft.com/en-us/windows/win32/fileio/filesystem-functionality-comparison

OFOOD **USDA FoodData Central downloadable datasets**
https://fdc.nal.usda.gov/download-datasets/

Sources and further reading

Source keys printed beside an entry point to the public documents below.

OGEM **Google Gemma 4 model overview**
https://ai.google.dev/gemma/docs/core

OGG **Hugging Face GGUF format documentation**
https://huggingface.co/docs/hub/gguf

OGIS **QGIS official downloads**
https://qgis.org/download/

OGOV **U.S. Government Publishing Office GovInfo**
https://www.govinfo.gov/

OGUT **Project Gutenberg offline catalogs and downloads**
https://www.gutenberg.org/ebooks/offline_catalogs.html

OHASH **Microsoft PowerShell Get-FileHash documentation**
https://learn.microsoft.com/en-us/powershell/module/microsoft.powershell.utility/get-filehash?view=powershell-7.5

OKIW **Kiwix reader download options**
https://get.kiwix.org/en/solutions/applications/download-options/

OKOB **KoboldCpp official project and release information**
https://github.com/LostRuins/koboldcpp

OLIB **Library of Congress Recommended Formats Statement**
https://www.loc.gov/preservation/resources/rfs/

OLMS **LM Studio offline operation documentation**
https://lmstudio.ai/docs/app/offline

OMAP **U.S. Geological Survey topographic map download options**
https://www.usgs.gov/faqs/how-do-i-find-download-or-order-topographic-maps

OMED **MedlinePlus downloadable XML files**
https://medlineplus.gov/xml.html

ONIST **NIST Generative Artificial Intelligence Risk Management Profile**
https://www.nist.gov/publications/artificial-intelligence-risk-management-framework-generative-artificial-intelligence

ONWS **National Weather Service NOAA Weather Radio**
https://www.weather.gov/nwr/

OOLL **Ollama frequently asked questions and local connection settings**
https://docs.ollama.com/faq

OPATH **Microsoft Windows maximum path length documentation**
https://learn.microsoft.com/windows/win32/fileio/maximum-file-path-limitation

ORAG **LM Studio chat with documents documentation**
https://lmstudio.ai/docs/app/basics/rag

OSTAX **OpenStax higher education textbook catalog**
https://openstax.org/higher-education

OWIKI **Kiwix Wikipedia archive listing**
https://lb.download.kiwix.org/zim/wikipedia/

OZIM **Kiwix documentation on finding ZIM files**
https://get.kiwix.org/en/faq-items/where-can-i-find-zim-files/

Sources and further reading

Source keys printed beside an entry point to the public documents below.

G01 CDC | Protective actions in a radiation emergency
https://www.cdc.gov/radiation-emergencies/safety/

G02 CDC | Removing radioactive contamination
https://www.cdc.gov/radiation-emergencies/prevention/self-decontaminate.html

G03 CDC | Food, drinking water and medicine after a radiation emergency
https://www.cdc.gov/radiation-emergencies/safety/food-drinking-water-medicine-safety.html

G04 CDC | Radiation emergency questions and potassium iodide
https://www.cdc.gov/radiation-emergencies/faq/index.html

G05 EPA | Radiation basics
https://www.epa.gov/radiation/radiation-basics

G06 EPA | RadNet nationwide environmental radiation monitoring
https://www.epa.gov/radnet

G07 RadiaCode | Quick start for the 100 series
https://radiacode.com/docs/en/100-series/quick-start

G08 RadiaCode | Connecting a 100-series device to a smartphone
https://radiacode.com/docs/en/100-series/connect-to-phone-or-pc/connect-to-smartphone

G09 RadiaCode | Monitor display
https://radiacode.com/docs/en/100-series/display-modes/monitor-mode

G10 RadiaCode | Android app reference and spectrum export
https://downloads.radiacode.com/EN/RC-10x_Android.pdf

G11 RadiaCode | Windows documentation and data export
https://dl.radiacode.com/Radiacode_documentation_en.pdf

G12 RadiaCode | Official software and support downloads
https://www.radiacode.com/downloads

G13 Ready.gov | Power outage information sheet
https://www.ready.gov/sites/default/files/2024-08/ready.gov_power-outage_info-sheet.pdf

G14 CPSC | Portable generator hazards
https://www.cpsc.gov/s3fs-public/portable-generator-hazards-047.pdf

G15 National Weather Service | Weather safety by hazard
https://www.weather.gov/safety/

G16 USGS | Finding downloadable topographic maps
https://www.usgs.gov/faqs/how-do-i-find-download-or-order-topographic-maps

G17 U.S. Copyright Office | Copyright basics
https://www.copyright.gov/circs/circ01.pdf

G18 CDC | Contamination versus exposure
https://www.cdc.gov/radiation-emergencies/infographic/contamination-versus-exposure.html

G19 NRC | Measuring radiation
https://www.nrc.gov/facilities-safety/radiation-protection/radiation-and-its-health-effects/measuring-radiation

G20 CDC | What to do during a radiation emergency: get inside
https://www.cdc.gov/radiation-emergencies/response/get-inside.html

G21 CDC | Potassium Iodide (KI)
https://www.cdc.gov/radiation-emergencies/treatment/potassium-iodide.html

G22 RadiaCode | 100 Series Capabilities
https://radiacode.com/docs/en/100-series/device/what-radiacode-100-series-can-do/

G23 RadiaCode | Spectrum Display and Accumulation
https://radiacode.com/docs/en/100-series/display-modes/spectrum-mode/

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