

# SUPPLIES

You're going to assemble or update your earthquake kit or purchase a ready-made one, familiarize yourself with what's in it and why

## To buy or build?

If we've learned anything from the COVID-19 pandemic, it's that it pays to be prepared for an emergency. It's time to assemble your earthquake kit, or potentially check on and add to what you already have in there.

If you'd rather not get everything together yourself, you can buy one of many preassembled options online; they come in a variety of price ranges to suit your family and budget. But if you'd rather put together a DIY kit, we've put together a checklist of what to add.

A few notes: Make sure your food and water are not close to their expiration dates. Plastic water bottles can leak over time, so be careful how you store them, and rotate your water supply every few months. Have fresh batteries and extras for the flashlights. Double-check that the phone chargers you include will work on everyone's phones.

## What you'll need

- Canned and packaged foods
- At least three gallons of water per person per day
- Fire extinguisher
- Hard-soled shoes
- Extra glasses/contact lenses
- Extra medications, especially prescription
- Face mask, (N95 if you can find them)
- Whistles
- Hand-crank NOAA radio
- Flashlights
- Batteries for flashlights
- Phone chargers
- Hard hat or helmet
- Gloves
- Goggles
- Crowbar
- First aid kit
- Tools to turn off utilities if needed
- Heavy-duty plastic garbage bags (for waste, tarps, rain ponchos etc.)
- Blankets
- Sleeping bags
- Extra clothing for a variety of weather
- Tent
- A portable cooking appliance, such as a propane camp stove
- Utensils
- Manual can opener

- A paper map of your area
- Food, medication, restraints and other supplies for pets
- Copies of important documents, such as emergency contacts, passports, driver's licenses, birth certificates and insurance policies
- Diapers, formula and medication for small children
- Comfort items, such as stuffed animals, board games and books

## Items that may be new to you

Some of the stuff that disaster experts recommend keeping in your kit might not be things you've used before. If you've never used, say, a hand-cranked radio, you might not know why you'd need one in case of an emergency. Here are some things to add to your family's emergency bag and why.

**Hand-crank NOAA radio:** A lot of items in your kit might make you say, "Why would I need that when I have a smartphone?" Indeed, you can listen to National Oceanic and Atmospheric Administration Weather Radio online whenever you want, if that's something that interests you. But in the event of a major earthquake, cell towers could stop working. And if you're on your phone the entire time, your battery could go even sooner than that. If your modem's power is out and you're using cell service at the exact same moment as every other person in your house, neighborhood and city, livestreaming radio might not be available.

A hand-crank NOAA radio will let you tune in for weather alerts and other updates. Most modern options have presets to access NOAA frequencies (162.550 for Los Angeles). Radios with NOAA receivers are different from the radio in your car: They broadcast on a VHF frequency, as opposed to AM or FM. (It's complicated.) Many also can be charged with solar power or batteries, and let you use that power to charge your phone at the same time. Some double as flashlights too. A quick browse on Amazon shows options as inexpensive as \$15 with all of those features. In other words: You should really get one.

Tune your radio to your NOAA station and practice using the hand crank and other functionalities. Basically, get familiar enough with it that you aren't fumbling around for the very first time while also navigating aftershocks. And make sure you have the right kind of cable to charge your devices.

Another good way to stay up to date if you live in Los Angeles: Sign up for the city's emergency alerts through Notify LA.

**Whistles:** If you're trapped and need emergency workers to find you, blowing a whistle is going to be louder and more sustainable than shouting. You can get a shockingly loud emergency whistle for just a few dollars. Have you not seen the end of "Titanic"? Buy a whistle.

**Paper map:** Sure, you know how to get around your neighborhood. But would you know how to navigate to a new address (for instance, a shelter, hospital or emergency supply depot) in a different part of the city if all the freeways were at a standstill and you couldn't use your phone? Unless your answer to that question is a resounding "yes!" add a paper map of your area to the kit.

## Go-Bags

**Plastic sheeting and duct tape:** These are for securing your shelter in the event of earthquake damage. You might need to tape off certain areas so you can safely move around, or put sheeting down over shattered glass, or use it to cover broken windows or doors.

### Now what?

Experts recommend keeping a small earthquake kit next to or under your bed, tied to the leg. That way, if a quake hits while you're sleeping, you'll have it all right there and easy to find, even in the dark. Not everyone has earthquake kit storage space there. In that case, at minimum, you should have a by-the-bed kit: A flashlight, a pair of hard-soled shoes, and a pair of glasses or contacts under your bed or in a nightstand drawer. The idea here is that even if there's debris or broken glass on the floor, or the power is out in the middle of the night, you'll be able to get from your bed to wherever your quake kit is quickly and safely.

You'll need to rotate perishable items such as food, water and batteries according to their expiration dates. There are plenty of strategies for doing this — you could write yourself a note, set a reminder on your phone or rely on your brainpower. Pick something that will work for you.

### First-Aid Kit

In an emergency, you or a family member may be cut, burned or suffer other injuries. Keep the following basic first aid supplies so you are prepared to help when someone is hurt.

- Two pairs of disposable gloves
- Sterile dressing to stop bleeding
- Cleansing agent/soap and antibiotic towelettes to disinfect
- Antibiotic ointment to prevent infection
- Adhesive bandages in a variety of sizes
- Eye wash solution to flush the eyes or as general decontaminant
- Scissors
- Over the counter medicine such as aspirin or other pain reliever, laxative, and anti-diarrhea medication
- Prescription medications you take every day, such as insulin, heart medicine, or asthma inhaler
- Prescribed medical supplies such as glucose monitoring equipment or blood pressure monitors
- Learn how to use your mobile phone text messaging feature. Text messaging uses a different part of the cell network and it might be possible to send and receive text messages when voice channels for mobile phones and land lines are jammed.

So, you're stocked up for when (not if!) disaster strikes when you're at home. But what if you aren't at home? What if you're on the road, or at work or school?

Each household member should have his or her own Go-bag as a part of the Household Disaster Kit. Go-bags are designed for use:

- At home, so you can remain in place even without utilities;
- If you must evacuate your home; or
- If you cannot return home.

Because you may be away from home when disaster strikes, you are advised to keep a Go-bag at work and in your vehicle.

### Every Go-bag should include

- Food and water (as much as you can practically carry)
- Portable radio and extra batteries
- First aid kit and handbook
- 5-day supply of any medications you take regularly and a copy of your prescriptions
- Whistle (to alert rescuers to your location)
- Personal hygiene supplies (including toilet paper)
- Emergency lighting (e.g. glow sticks, flashlight, headlamp) and extra batteries
- Large garbage bags and paper towels
- Change of clothing and a hat
- Sturdy shoes, in case an evacuation requires walking long distances
- Dust mask
- Pen, paper and tape
- Cash in small denominations
- Keep coins in your Go-pack.
- Copy of health insurance card and driver licenses or identification card
- List of emergency contact phone numbers
- In children's Go-bags, include medical consent forms, a family photo for reunification purposes and their favorite toy, cards or book.
- Include flares and jumper cables in your vehicle's Go-bag.
- Remember to make a Go-bag for your pets.

### Storing food and water

Store enough food for everyone in your family to last for **at least 3 days**.

- Store food items that are familiar, rather than buying special "emergency" food.
- Consider any dietary restrictions you may have.
- Ideal foods do not require refrigeration or cooking (e.g. canned fruit, vegetables, peanut butter, jam, low-salt crackers, cookies, cereals, dried fruit, canned soup or meats, juices and non-fat dry-milk.)

- Mark a rotation date on any food container that does not already have a manufacturer's expiration date on the package.
- Include baby food, formula or other special diet items for infants and seniors.
- Store the food in airtight, pest-resistant containers in a cool, dark place.
- Most canned foods can safely be stored for at least 18 months. Low acid foods like meat products, fruits or vegetables will normally last at least 2 years. Use dry products, like boxed cereal, crackers, cookies, dried milk or dried fruit within six months.
- Do not consume food from cans that show any sign of deterioration (rust or bulging).
- After a power outage, refrigerated food will stay cold longer if you keep the door closed. Food should generally be consumed within 4 hours. Food in the freezer will normally remain safe for 2 days.

In a disaster, water supplies may be cut off or contaminated. Store enough water for everyone in your family to last for **at least 3 days**.

- Store one gallon of water per person per day. The amount will be adequate for general drinking purposes. Three gallons per person per day will give you enough to cook and for limited personal hygiene. Remember to plan for your pets.

### If you store tap water:

- Tap water from a municipal water system can be safely stored without additional treatment.
- Store water in food grade plastic containers, such as clear 2 liter soft drink bottles. (1 gallon=approx. 4 liters.) Heavy duty reusable plastic water containers are also available at sporting goods stores.
- Empty milk bottles are not recommended because their lids do not seal well and bottles may develop leaks.
- Replace water at least once every six months.

## Treating Water after Disaster

If you run out of stored drinking water, strain and treat water from your water heater or the toilet reservoir tank (except if you use toilet tank cleaners). You cannot drink swimming pool or spa water, but you can use it for flushing toilets or washing.

**Treatment Process:** Begin by straining any large particles of dirt by pouring the water through a couple of layers of paper towels or clean cloth.

Next, purify the water one of two ways:

- **Boil**-bring to a rolling boil and maintain for 3-5 minutes. After the water cools, pour it back and forth between two clean containers to add oxygen back, this will improve its taste.

- **Disinfect**-if the water is clear, add 8 drops (1/8 teaspoon) of bleach per gallon of water. If it is cloudy, add 16 drops (1/4 teaspoon) per gallon. Make sure you are using regular bleach—5.25% sodium hydrochlorite—rather than the “ultra” or “color safe” bleaches. Shake or stir, then let stand 30 minutes. A slight chlorine taste and smell is normal.

## EQUIPMENT

According to the Earthquake Country Alliance, two-thirds of all injuries sustained during an earthquake are a result of falling objects. So, let's do our best to avoid being injured **inside the home**.

### What you'll need

Begin by reviewing this list of equipment. Then read on to figure out what you have, what you want and what you need to make a hardware store run for.

- Wall straps or brackets (for bookcases, refrigerators, water heaters and more)
- Crescent or gas shut off wrench
- Safety latches or child-proof locks (for kitchen cabinets)
- Museum putty (to secure picture frames to walls and objects to tabletops)
- Closed hooks (for picture frames and mirrors)
- Safety film (for windows, so shattered glass will remain in place)
- Emergency plug-in lights that automatically turn on during a power outage (keep one plugged in near your bed)

### Secure your water heater

If your water heater isn't secured already (and it really should be), use two straps (you can buy these at a hardware store) to secure its top and the bottom to wall studs. This is important to prevent it from falling and causing gas leaks, fires, or flooding. Note that this might be a job for a professional. It's also possible to use your water heater as a source of fresh water after a disaster — another reason you want it to stay upright. The average tank holds 30 to 50 gallons of water, according to Earthquake Country Alliance.

### Secure other heavy things

**First, your other heavy appliances.** Anchor major appliances, such as refrigerators and stoves, with appropriate straps or brackets. Same goes for anything that could fall, such as a microwave perched on a shelf. Gas appliances, such as a stove, should have flexible connectors to reduce the risk of fire. Working with gas can be daunting, so call a plumber if you aren't comfortable.

**Then, your furniture.** First, make sure your bookcases and heavy furniture are away from beds and from places people sit. Put the heaviest items in bookcases on the lower shelves to prevent them from becoming projectiles. Do the same for your file cabinets and other tall furniture.

Secure the top of each piece of furniture to two wall studs — the vertical framing boards behind the drywall that support the wall — rather than just the drywall, so it doesn't budge. (Use an electronic stud finder, or tap the wall if you're a pro. If we lost you at the word "stud," that's OK. But it's important to know how to find these in your walls. You can ask for help at your local hardware store. You can use brackets or wall straps, which can allow furniture to sway without falling over.

**Plus your electronics.** Secure your television, computers, lamps and anything with hazardous electronic components. Even without an earthquake, children can be injured or killed by falling televisions. These electronics are also expensive to replace.

## Secure anything glass or hanging

**Secure your kitchen cabinets.** Install safety latches on your kitchen and bathroom cabinets. Broken glasses, plates and bottles can create a hazard.

**Then, your picture frames.** Closed hooks are the best way to make sure that your hanging items don't fly at you during the shaking. Hooks with openings are less secure and can come loose during shaking. Hang mirrors, wall art or plants with closed hooks. Do the same for anything that's hanging from the ceiling (e.g., hanging light fixtures). Also, make sure none of these things are hanging near where people sit or sleep. Use museum putty (also known as earthquake putty) or museum wax to secure picture frames and mirrors to the wall at their corners.

**Protect anything else that's glass.** Cut feet from broken glass in picture frames and mirrors are a common source of injury during a major earthquake. Consider using plastic instead of glass to cover pictures — especially in hallways — to limit broken glass. There are also glass-less frames — including ones you can make yourself — and archival sprays with UV and water-resistant lacquer that help preserve digital photos. You can also put security film on your mirrors and windows, which keeps your glass from shattering, in the same way your car's windshield glass is protected from shattering completely if a rock hits it.

**Secure your other decor.** Use museum putty to secure flower pots or vases to the surfaces on which they sit, too. Although extremely durable, museum putty isn't fail-safe, so keep larger, heavier objects on lower shelves.

## Remove other potential hazards

**Sleep clear of falling objects.** Remove anything that could fall onto your bed, and make sure your bed is away from windows, which can shatter. You can also cover your windows

with security film.

**Store toxic and flammable substances safely.** Make sure anything flammable or toxic is stored in a cool, dry place away from other materials — ideally on bottom shelves. This includes aerosol cans, cleaning products, pesticides, auto products, batteries, propane tanks and more. For extra security, you could add raised edges or rim guards to shelves or use bungee cords to keep things in place.

**Clear out hallways and exits.** Is anything blocking the way? Make sure you have at least two clear paths to get outside safely after the shaking stops.

## Outside the home

These fixes might require a little more handiwork and even the help of a professional. Here's a look at what you can do yourself — and what you probably shouldn't.

### Electricity

Electrocution can result from direct contact with live wires or anything that has been energized by these wires.

- Locate your home's main electrical switch, which is normally in the garage or outdoors, where the power lines enter the home. The panel box may have a flip switch or pull handle on a large circuit breaker.
- Turn off small circuits, then the main.
- Turn back on, main, then small circuits.
- Shut off electricity when:
  - Arching or burning occurs in electrical devices.
  - There is fire or a significant water leak.
  - You smell burning insulation.
  - The area around switches or plugs is blackened and/or hot to the touch.
  - A complete power loss is accompanied by the smell of burning material.

### Water

After a major earthquake, shut off water at the house to protect the water in your water heater, toilet tanks, and house pipes. Cracked pipes may allow contaminants into the water supply, in addition, water leaks can create property damage and electrocution hazards.

- The water shutoff is usually located in the basement, garage, or where the water line enters the home. The water shutoff is located on a riser pipe and is usually a red or yellow wheel or handle. Turn wheel clockwise or the handle to 12/6 to shut off.
- If you need to access water in your water heater, look for a drain line on the bottom of the water heater.

## Sewer Service

A disaster that disrupts all or part of the City's water and/or sewer lines could affect the way you deal with human waste.

- If there is no water in your toilet, but the sewer lines are intact, pour 3-5 gallons of water into the toilet bowl to flush. You may use seawater, bath, laundry or pool water.
- If you suspect damage to your home's water lines, do NOT flush the toilet. Turn off water at the house so contaminated water does not enter your water system.
- If sewer lines are broken, line the bowl with double-bagged plastic garbage bags to collect human waste. Before discarding the bag, add a small amount of bleach; then seal the bag and place in a tightly covered container, away from people.
- If the toilet is unusable, use a sturdy bucket with a tight fitting lid, and line it with a double-bagged plastic garbage bag.

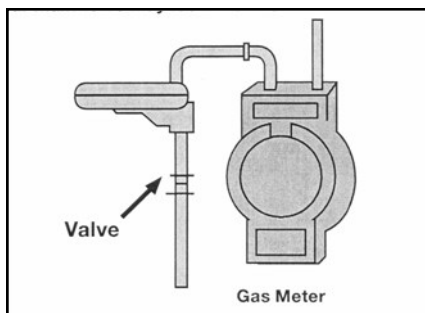
## Gas

Natural gas leaks can cause fires and explosions inside a building.

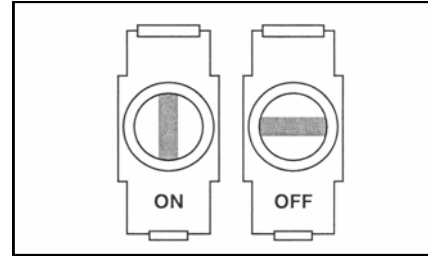
- If you smell gas, hear gas escaping, see a broken gas line, or if you suspect a leak, shut off the main valve and open all windows and doors.
- If you suspect a leak, never use candles, matches or flashlights and do not turn on electrical switches or appliances.
- Identify the main shutoff valve located on the gas line coming into the main gas meter. This is usually on the exterior of your home or building or in an external closet.
- Keep a crescent wrench or gas shut-off tool nearby to turn the lever.
- Once you turn off the gas, never attempt to turn it back on yourself. Wait for your utility company to do it, but be aware that it may take several days for it to be turned back on.

If that sounds like too much responsibility, you could have a professional install an automatic gas shutoff valve. This will shut off the gas if enough seismic activity or a leak is detected. You may already have one if you live in a home, that you purchased within the last 20 years.

Your main valve may look like this:



To turn gas off, give the valve a quarter turn in either direction. When the lever crosses the direction of the pipe (see below) the gas is off.



## Call a professional

Some of the improvements you may need to make are too technical for the average homeowner. Here's what you need to know about retrofits and similar work. Relatively simple retrofitting can keep raised-foundation homes from sliding off their foundations. These homes have a crawl space between the floor of the house and the concrete foundation, and the flimsy wood-frame perimeter that the house rests on could snap during an earthquake. This common type of retrofitting takes the least amount of time and is the least expensive. Keith Whallett, chief executive of L.A.-based Foundation Works, estimated that the process takes about a day and costs about \$4,500. There's also an Earthquake Brace + Bolt (EBB) program that California homeowners can apply for. It provides up to \$3,000 to strengthen your home and lessen the potential for earthquake damage. Visit the website and sign up for email updates for information on how to register at <https://www.earthquakebracebolt.com/>

## AFTER DISASTER STRIKES

Whatever you do, stay calm, **STOP** what you are doing, **LOOK** around you and carefully assess the situation, **LISTEN** for instructions by tuning to a radio news source like KNX 1070 AM.

- For your own protection, cooperate fully with public safety officials and keep the streets clear for emergency vehicles.
- Do not use your phone except in life-threatening situations.
- Visually inspect your building's structural integrity. If there is major damage to the walls or roof, evacuate the structure.

Using a flashlight, inspect your building for gas and water leaks, broken electrical wiring or sewage lines. If there is damage, turn the utility off at the source.

## If you are indoors when shaking starts:

- “DROP, COVER AND HOLD ON.” If you are not near a strong table or desk, drop to the floor against an interior wall and cover your head and neck with your arms.
- Avoid windows, hanging objects, mirrors, tall furniture, large appliances and cabinets filled with heavy objects.
- If you are inside, remain indoors during the earthquake.
- If you are in bed at the time of the earthquake, stay there and cover your head with a pillow.

## If you are outdoors when shaking starts:

- Move to a clear area if you can walk safely. Avoid power lines, buildings and trees.
- If you’re driving, pull to the side of the road and stop. Avoid stopping under overhead hazards (e.g., bridges, overpasses, power lines or large overhead signs).
- If you are on the beach or another low-lying area close to the ocean or bay, you could be in the path of a tsunami.

## Once the earthquake stops:

- Check those around you for injuries; provide first aid. Do not move seriously injured persons unless they are in immediate danger. Keep them warm with blankets or additional clothing.
- Evacuate buildings using stairs; avoid elevators.
- Check around you for dangerous conditions, such as fires, downed power lines, gas leaks and structural damage.
- If you have fire extinguishers and are trained to use them, put out small fires immediately.
- Avoid broken glass.
- Turn off the gas only if you smell gas.
- Use extreme caution around spilled hazardous materials, such as bleach, lye, garden chemicals, paint, gasoline or other flammable liquids. When in doubt, leave the area.

## If you are trapped in debris:

- Move as little as possible so that you don’t kick up dust.
- Cover your nose and mouth with a handkerchief or clothing.

Tap on a pipe or wall so that rescuers can hear where you are. Use a whistle if one is available. Shout only as a last resort

## Fire

If your smoke alarm goes off or you see a fire:

- Remain calm and get out.
- If you see smoke under the door, find another way out.
- Feel the door with the back of your hand before you open it. If it is hot, find another way out.

- Drop to the floor to avoid smoke and fumes. Crawl to safety.
- If your clothes catch on fire, **STOP** where you are, **DROP** to the ground and **ROLL** over and over to smother the flames.
- Call 9-1-1 from a safe location.
- If you are trapped in a burning building, stay near a window and close to the floor. If possible, signal for help.
- Do not go back inside the building unless instructed that it is safe to do so.

## Power Failure

If your neighborhood experiences a power outage:

- Turn off and unplug appliances and computers. Leave one light on in the house or building to indicate when power has been restored.
- Avoid using candles, as they are fire hazards.
- Do not use a gas stove for heating or operate generators indoors (including the garage). Either action could cause carbon monoxide poisoning.
- If a traffic signal is not working, treat it as a stop sign.