

COOKING

Without

FUEL



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Introduction

In a survival situation, it's important to secure all the necessities, including shelter and access to food and water. Having access to fuel for cooking is also important. Cooking allows us to eat food that would normally be unavailable or unsafe, and can help purify water for safe drinking. But what is the best method for cooking if the gas and electricity goes out? There are many fuel-saving or even fuel-less cooking methods available, and some of the most effective and popular ones are listed below.

Don't wait until disaster strikes before trying to cook food with these methods. Many techniques require buying or making a cooking appliance ahead of time, or else require some practice to work properly. It is much better for everyone if you try two or three fuel-less cooking methods without the pressure of survival. Accidentally burning supper is not nearly as stressful when there's other food and power sources available.

Fuel Options

There are a number of fuel options available when gas and electricity are no longer an option, and each has its benefits and drawbacks. Ideally, you will want to have more than one fuel source. Keeping things diverse not only lets you cook a wider variety of foods, but it also allows you too cook more than one dish at a time, if needed, and prevents your household from depending on a single source for cooking (depending entirely on a solar oven, for example, will not serve you well if cloudy or stormy conditions persist for a few days).

Wood

Used for thousands of years as fuel, wood is the ancient means of fueling fire for heating, protection and of course cooking food. This is a renewable and very versatile resource, and can be used with a number of different cooking appliances, from simple hearths to elaborate wood-burning cooking stoves.

Pros

- Wood can be a renewable resource, available to use in the long-term, especially if woodland is properly managed
 - From pies and breads to meats and vegetables, food cooked over a wood fire simply tastes better.
 - Thanks to its versatility, wood can be used to cook food and heat the home or campsite at the same time
- Cons

- ❑ As a fuel source, wood is very effective, but it releases carbon monoxide and other harmful particles and gases that are hazardous. The [WHO reports](#) that more than 1.6 million deaths per year worldwide are due to respiratory diseases caused by inhaling wood smoke.
- ❑ While plentiful in many areas, wood can be hard to find in some places.
- ❑ Wood takes a great deal of time and effort to harvest, chop and prepare for cooking and heating.

Charcoal

Lump unprocessed charcoal is another renewable fuel source. It is made from wood, usually wood scraps from timber mills or unprocessed scrap wood, such as tree limbs. After a partial burning process, the resulting natural lump charcoal is a fuel source made almost entirely of carbon. This charcoal burns hot and consistently for a long time and produces less smoke and ash than wood. Like wood, however, charcoal releases carbon monoxide (CO) and is therefore too dangerous to use indoors.

Pros

- ❑ Making your own charcoal allows you to turn poor cooking-quality scrap wood into something usable and effective.
- ❑ The process used to make lump charcoal burns off volatile gases to make a clean and safer fuel source.
- ❑ Once produced, lump charcoal releases less smoke and remains at a more constant heat when compared to wood. Many cooks prefer to use a combination of the two when preparing food.

Cons

- ❑ The burning process can be labor-intensive, depending on what method you use and the amount of charcoal you're trying to make
- ❑ For some people, the effort involved may not make using charcoal worth it, especially if there's a steady supply of quality wood available for cooking.

How-To

There is a wide variety of methods available to produce lump charcoal, from large elaborate operations that take days to complete, to relatively compact and simple techniques that work great for getting some use out of old wood scraps. Here is an example of making lump charcoal using a [closed container](#). No matter which technique you use, make sure that the wood is completely dry before burning, and place the burning area downwind and away from the home to prevent problems with all the smoke.

The Sun

The most powerful energy source on this planet is nothing other than our sun. In a survival situation, warm solar rays can slow-cook food and pasteurize water, milk and other beverages. It doesn't take a hot summer day for the sun's power to work either – all it takes is a clear day with plenty of sunshine and a solar cooker or oven.

Pros

- The sun offers clean, renewable energy that allows for smoke-free cooking
- Solar cooking takes minimal effort and no monitoring. You can simply set your food, turn the panels towards the sun, and go off to get work done while the food cooks on its own for a few hours. Cons
- The sun is always there, but poor weather, living at extreme latitudes and of course nighttime all prevent us from using its energy to cook.
- In order to harness the sun's energy for cooking, you have to make or acquire a solar oven or cooker before a disaster or serious power outage strikes.

Cooking Methods

Solar Cooker

Whether necessary for survival or not, there is something very satisfying and fascinating about harnessing the power of sunlight to cook food. When electricity and gas becomes unavailable, and wood becomes difficult to acquire or too costly to use for cooking every time, a solar cooker can be the perfect solution. No matter what the temperature is outside, full sunshine is all that's needed for a solar oven to work. The ingenious devices can be bought pre-made or can be constructed out of simple, everyday materials for cheap.

Pros

- The solar cooker does not require any fuel to operate, making it a perfect addition to cooking in a survival situation when you'd rather save on wood.
- Cooking with a solar oven is safe and smoke-free.
- There is a reduced risk of burning or overcooking with the solar cooker.
- This cooking method can be used to pasteurize water for safe drinking.
- Solar ovens can be lightweight and portable, so you can take them along if you're on the move.

Cons

- Solar cooking only works during a sunny day. These cookers cannot work at night, during inclement weather, or during morning and evening when the sun is too close to the horizon.

- The cooking time using a solar oven usually takes several hours; however, there is no need to stir or monitor the cooking food in a solar cooker.

How-to

While there is a nearly unlimited variety in solar cookers available for purchase or to construct on your own, all work using the same basic principles: to absorb sunlight, convert sunlight into heat and trap the heat inside. Once you have built or bought your solar oven and assembled it, the rest is easy:

1. Place your solar cooker in a warm, sunny spot
2. Load your cooker with food (you should cut up some items such as potatoes and meat to make cooking faster and more consistent). Use glass jars for liquids, fruits and veggies.
3. Cooking times vary widely, depending on the size and efficiency of the solar cooker, as well as the intensity of sunlight. Cooking a large pot of rice, for example, can take anywhere from a couple of hours to an entire day, while baked goods can be done in 1-3 hours in good conditions. If cooking will take up several hours or more, remember to turn the solar oven to face the moving sun.

Wood-Burning Stove

Some homes are already fortunate enough to contain a wood-burning stove for heating. But did you know that wood-burning stoves are also one of the most efficient ways to cook food? Some are even designed just as cooking stoves. While these cooking appliances are primarily a heating source, allowing you to both heat your home and cook your food without wasting excess energy or fuel.

Pros

- A wood-burning stove's interior can heat up to 1000F, with the stove surface reaching upwards of 400F. This makes these appliances very effective and quick at heating up food.
- Wood-burning stoves can also do double-duty, both heating the house and preparing the food with no added fuel needed.

Cons

- Although they are very effective, cooking with wood-burning stoves requires a lot of trial and error, and the learning curve is steep. Prepare for lots of mistakes and one or two dishes burned to a crisp before you get the hang of it. This is especially true for wood-burning stoves that aren't designed for cooking.
- Another problem with using wood-burning stoves that are meant for heating is the intense heat that you have to endure in order to prepare supper. Standing directly in front of the wood-burning stove is certainly uncomfortably hot, although in a survival scenario, the benefits of a home-cooked meal certainly outweigh the discomfort to cook it.

How-To

You can use a wood-burning stove to cook just about anything in a number of ways. These stoves can easily bring a kettle of water to a boil in minutes or fry up eggs and bacon for a quick and hearty breakfast. And despite their extremely hot interior, wood-burning stoves are suitable for baking food as well – just make sure to double-wrap your food with aluminum foil and keep a close eye on everything during baking.

Most cookware works great with a wood-burning stove, though many cooks recommend using cast-iron skillets. For more cooking options, a Dutch oven on the stove-top works great as well.

Earth Oven

Used by many different cultures worldwide for thousands of years, the earth oven is a unique and incredibly efficient way to cook food when electricity and gas is no longer an option. It works a lot like a regular oven, and can be used to cook just about anything, from meats to vegetables and even baked goods and desserts.

Pros

- These are very efficient cooking tools, requiring no fuel whatsoever
- There is a dramatically reduced risk of burning the food
- Earth ovens cost almost nothing to construct – all you need is a shovel, an animal hide or other barrier, and a few rocks.
- Cookware like pots and pans are not needed
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Cons

- These ovens still require wood to keep fire alight to heat the cooking stones, although certainly less wood than what is needed to cook over an open fire.
- Diligent watching and stirring may not be necessary, but cooking in an earth oven takes time, much like a slow-cooker.

How-To

Making your own earth oven is very easy, and it takes only a little bit of practice to cook delicious meals for you and your family.

1. In a brush-free area, dig a hole in the ground. 1ft deep by 2ft wide and 3ft long usually does the trick for most meals, but can be made bigger or smaller as needed.
2. Line the bottom of the hole with flat rocks (avoid stream-bed stones, which can explode when heated).
3. Place kindling on the stones and get a fire going. Keep the flames hot for an hour or so to heat the stones completely.

4. Scrape away the leftover coals and prepare your food. Food should be wrapped, either in tin foil or with traditional edible leaves and greens.
5. Place the wrapped food on the hot rocks, cover with more edible leaves or other insulation and pour a cup of water over everything
6. Cover the food with animal hide or other layer to keep the dirt off and cover with 4in of soil.
7. Let the food cook, usually several hours or so for full meals, then simply dig up your food and enjoy!

Tin Can Cooker

Also known as “hobo stoves,” these are one of the simplest, cheapest and easiest cooking methods available when there's limited fuel. Very popular for camping, tin can cookers are great to have on standby in a survival situation.

Pros

- Tin can cookers are very lightweight and portable – perfect if you're on the move or want a way to heat up food and water when you're out hunting or fishing.
- These tiny stoves are versatile and can be made out of ordinary scraps like empty tuna and soda cans. They can be tailor-made to suit your environment and to the materials that you have on hand.
- Although small, tin can cookers are reusable and surprisingly durable, lasting without a problem after being used dozens of times.

Cons

- Making your own functional tin can cooker can take some time and practice.
- These have a smaller cooking area than an open fire. If you're in a large group, you'll want to use more than one of these.
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How-To

There are many ways to make a tin can stove, with many options for a fuel source. These little stoves can be powered by butane, wood kindling, paraffin and even alcohol. The most popular, and arguably most “traditional” fuel source is a tuna can or similarly shaped can, filled with a combination of cardboard, paraffin and kindling. If needed, dry kindling on its own works great as well. This is a favorite cooker of the Scouts, who offer this [tin can stove how-to](#) on their website.

Insulated Cookers

Insulated cookers are simple and effective fuel-less cooking devices that prevent heat from hot pots or pans of boiling food from escaping, allowing the food to continue to slow cook for a few hours. Simply bring a pot of rice, vegetables or other food to a rolling boil and quickly cover and place into a a very well insulated box or basket.”

Pros

- ☐ Using an insulated cooker can increase efficiency and reduce the need for fuel, as the food continues to cook slowly without the need to be stirred or checked on
- ☐ Insulated cookers can be portable. In Kenya, women use traditional baskets reinforced with insulation to bring out into the fields. The result is a warm, hearty lunch later in the day.
- ☐ These cookers are very simple to make, and can be constructed to be as large or as small as you want. Cons
- ☐ Like many other fuel-less cooking methods, insulated cookers take more time to cook food than conventional stoves or ovens. Fortunately, there's no need to monitor or stir the food while it cooks – just place it in the insulated cooker and leave it alone for a few hours.
- ☐ There's a chance that food in your insulated cooker did not cook thoroughly, leaving the potential for food-poisoning. Be sure to allow plenty of time for the food to cook and to not allow any heat to escape before the food is ready.

How-To

There are several options when using an insulated cooker. These cooking tools can be about as elaborate as simple as you'd like. The easiest example would be a well-insulated thermos. Simply heat your water to a boil, pour it into the thermos with noodles, beans, oats or other food, shut the lid and let sit for 3-4 hours. The thermos will keep the water hot enough to cook the food inside. Just be sure to not get impatient and open the lid too early or all the heat will escape.

1. Bring water to a boil
2. Add the beans, grains or other food, making sure the water continues to boil.
3. Cover the pot and carefully place inside the insulated cooker
4. Resist the temptation to check on the food while its cooking, since opening up the insulated cooker releases precious heat.
5. Allow at least twice the time for food to cook in an insulated cooker than on a stove top.

Keeping Safety in Mind

In a survival situation, or even while camping, safety while cooking is extremely important. Injuries or illness as a result of poor cooking methods can be a huge setback. Learning how to cook with these methods ahead of time can help you anticipate and avoid problems without much pressure. Remember to learn more than one cooking method, and plan for cooking both indoors and outside, in a temporary location or at home, and in many different kinds of weather.

Fire

One of humankind's most important and valuable tool, fire is an invaluable resource in a survival situation. It is also, however, variable and potentially dangerous. It's important to take the time needed to use it in the most effective way possible, and to keep yourself and your family safe.

- When cooking outdoors, clear the area where flames will be present. Ideally, you want the area cleared at least 10 feet or so around the fire.
- Never cook indoors with an open fire, and keep the cooking area well-ventilated: the smoke contains dangerous carbon monoxide and other harmful agents. Make sure to use your woodburning stove properly and keep it well-maintained to prevent smoke from escaping into the house.
- An open flame or wood-burning stove is very hot and easily accessible. Never manipulate fire with your bare skin. Those with small children need to be especially vigilant to prevent accidents.

Spoiled or Inadequately-Cooked Food

Food borne illnesses are difficult to deal with in the best of circumstances. In a survival situation, they can be lethal. It's important to remember when trying a new cooking method to be extra careful with your food. There's a chance that you may not have let your chicken and rice cook in the solar cooker long enough, or that the pork roast cooked unevenly in the wood-burning oven.

No matter what cooking method you choose, be very mindful of thoroughly cooking your food and properly storing it for later. Consider buying a thermometer to test your food before eating. You can also use the thermometer to test whether water or another liquid has been properly pasteurized for safe drinking.

Whether your home has temporarily lost power, or if you find yourself in a much more serious survival scenario, knowing how to cook warm, hearty meals without electricity or gas, and having the tools needed to do so, can go a long way in bringing health and peace of mind in uncertain circumstances. Learning these methods may take some initial effort, but the results are well-worth it.

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