

Three mini-stoves you can make for under \$3

All of these stoves can be made with very simple tools – even just sticks and stones.

Wood Stove (*makes campfire coffee in under 10 minutes*)

Supplies: Double handful of kindling, 3 or 4 pieces of square-cut cordwood, tinder & lighter



1. Find or make a safe firepit. (e.g. 6 feet diameter of bare dirt or sand, or a campground fire ring.)
2. Place the cordwood on end, with a chimney-like channel in the middle.
3. Make sure the pot sits level on top of this channel. Fill the pot.
4. Stack a small V-shaped fire with kindling, with the point in the base of this chimney channel.
5. Set the pot on top.
6. Light the fire in the opening of the V.
7. The kindling will engage, then the faces of the firewood. A liter of water should boil in about

6 minutes.

8. You can cook one or two more things on this stove before the fire starts to destabilize the wood supports.
9. When done, knock the supports inward to enjoy a brisk bonfire, or knock them outward and supervise their cool-down if you want to save the same wood for a later campfire.
10. (If you don't have time to supervise them until they completely cool down, you can use water to put out the fire, but the wood will be too wet to use again this week.)



Jug Stove:

Materials: Shovel or digging stick, clay dirt-pile or hillside, small dry sticks.

Like the fox stove, but traditionally built into hillsides or termite mounds.



- 1) Dig a narrow chimney that will support your pot, and a larger jug-shaped fireplace below it.
- 2) Firm things up with a few extra rocks.
- 3) Light a small fire in the jug using small, dry sticks.
- 4) As the jug dries out, add more sticks. A “v” shape against the back of the jug, under the chimney, burns cleanest.
- 5) Add a pot of water and boil up some tea, coffee, or stew.



More permanent versions of these chimney-style cooker can be made with bricks, cans, or insulating materials; see *Six Quick Mini Stoves* at www.ErnieAndErica.info/shop



Fox Stove:

Materials: Camp shovel or digging sticks, dry earth without big roots, small dry sticks, optional rocks

This “stealth stove” has been used all over the world, notably in regions where scouting parties move discreetly through tribal-conflict areas. One American version is called the Dakota Pit Stove, Australia has a burrow-stove like this, and we've heard 5000-year-old examples from the Kashmir area in southern Asia. The best ones make a smokeless fire that cooks quickly and efficiently, and can be put out and buried again so it's nearly impossible to detect after you break camp.

It doesn't work well in swamps and very wet areas. In our region with insulating silty soils, we start over if we hit a big old root, because root fires can burn for months undetected before re-emerging as wildfire.

1. Dig a wide hole downward at a slight angle, tapering in. (You can use an old burrow from a fox or badger, if you have one handy.) Work with your back to the wind, so the wind will blow down into the hole.
2. Dig another small hole straight down to meet the horizontal burrow. Extend the narrow part of the burrow if needed until they meet with a good, hand's-breadth connection.
- (In my best smoke-free example to date (photo above), the wide opening slopes gradually down, maybe a 20 degree slope, for 3 or 4 feet. The narrow straight-down hole was about as long as my arm.)
3. Pile all the dirt from these operations around the mouth of the narrow hole, so that it becomes taller like a chimney. Use additional stones if needed. Make sure the top of this chimney-pile can support your cooking pot(s) nice and level.
4. Build a fire with small sticks at the bottom, where these two holes meet. Start with a twist of dry paper, then a small fire of very dry twigs, arranged in a “V” with the point right underneath the chimney hole. You can poke more paper or tinder into the V if needed. Once the fire is established, you can add a few larger sticks, still in that V shape so the air coming down the hole blows right in between them like a blacksmith's bellows. Thumb-sized up to maybe 2” sticks are all that we normally use; this fireplace can cook on a double handful of dry branches.
5. Once the fire is burning well with no smoke, fill your cooking pots and have fun.
6. Fox Play: You may notice that if someone is sitting or standing in the air-intake, or if the wind shifts too much, the fire may smoke more. It helps to push the sticks in from time to time so the fire stays right below the chimney, and stay out of the hole. You can experiment with using your body to block the wind, or having two people beside the hole to help catch more wind and funnel it down.
7. When you are done cooking, remove any burning sticks and make sure they are completely out. 'Safe' the stove so it can't start wild fires or harm livestock. Pour water into either hole until there is no more steam. Then fill in the holes with the dirt. “Nothing to see here.”



Bonus: Coffee can BBQ starter:

Materials: Big can, can-opener with pointy punch.

(optional handle: Pliers, wire + tiny sauce can (or sheet metal + rivets).)

1. Cut the top and bottom off a tall steel can such as a coffee can, big juice can, etc.
2. Use the can opener point to make air holes all around the bottom, about 1" apart.
3. (Optional handle: If you don't make a handle, you can use BBQ tongs or two sticks to pick up the can when it's hot.
Handle: Either make a strip of scrap metal about 11 inches long, and bend the ends to make a rivet-on handle. Or use a harness of thick baling wire, then shape the loose end of the wire into a handle. You can fold up a small tomato-paste can and thread it onto either style of handle to give it a heftier grip.)
4. Set up the can where you want the cooking fire: in your wood or charcoal BBQ, or in a fire-safe campfire pit.
5. Stack inside the can: dry paper (greasy paper is great), small to large kindling, optional larger fuel such as dry branches broken to fit inside the can, charcoal left over from other fires, small chunks of wood-shop scrap, or charcoal briquettes.
6. Light the fire by putting a match through one of the air holes to light the paper, or pull a twist of paper out to light with a lighter.
7. Let the fire burn until the coals are glowing red-hot and there is no more smoke. Lift the can to create a bed of coals ready for even barbecue cooking.

(For a larger fire, you can lift the can a little earlier while there are still bright flames, and add more charcoal or evenly-sized wood in a grid pattern on top of the pre-heated fire.)

You can also use a steel can to make a hobo camp stove by piercing the can in the right way to let air in at the bottom and exhaust out around your cookpot at the top. Simple and fancy hobo stoves are described in *Six Quick Mini Stoves* at www.ErnieAndErica.info/shop, or find more free stove and cooker designs online at www.rocketstove.org.

