

Campfires

Sitting around the campfire is a quintessential part of the camping experience! Knowing how to safely and effectively build a campfire is an important skill for all campers.

Camping at home may or may not be a great place to try lighting a fire; if you happen to have a fire-pit and want to learn with an adult, great! If not, we can still learn a lot from the science behind how fires work and by practicing building without actually lighting.

Fire Safety

When working with fire, it is important participants understand the safety implications for themselves and the environment. Create a list of rules for the area around the fire pit. How should people behave? How do we keep the **area safe**? **Once you've made your list, compare it to the one below. Make sure you've included:**

- **Walk, don't run, when around the fire.**
- Only 4-5 people should be around the fire at a time.
- Use designated fire rings. Fire should be contained within the ring. The surrounding area should be clear of debris.
- When collecting wood, only collect dead wood from the ground.
- Always have a bucket of water and shovel at the fire ring **BEFORE** you start a fire.
- Everyone should have their hair pulled back and secured with a bandana, hair tie, or hat.
- Loose fitting clothing should be taken off, long sleeves pulled up, all strings should be tucked in.
- Everyone should be wearing closed toed shoes.
- Build a fire just big enough to do the job. Cooking and social fires need not be bonfires.
- Make sure someone is always watching the fire and not leaving it unattended.
- Adults should be nearby when around a fire.
- When a stick goes into the fire, it should stay in the fire. We should not play with burning sticks.
- Make sure your fire is completely out before leaving.

What does fire need to burn?

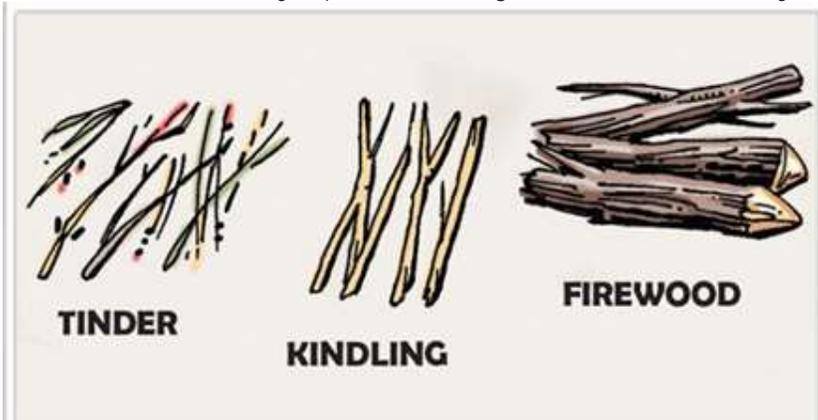
Fire needs three things to burn! This is very important when building a camp fire.

- Start by asking your girl what a fire needs. They will probably guess heat (ignition) and fuel. But fire also needs oxygen to burn!
- To demonstrate the need for oxygen, light a tea light and then cover it with a glass cup or jar. Have the girls watch what happens.



Types of Wood

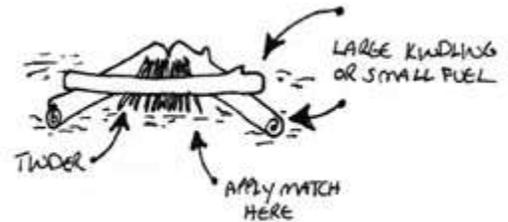
1. Send your camper out to collect sticks as she would for a campfire. Give them about three minutes and then have them evaluate what they have collected.
 - a. What burns the most easily? What would burn the longest?
 - b. Discuss with your girl how they will want to start with their smallest wood (which lights easiest) and move up to their larger wood (which burns longer).
2. Identify the three types of wood.
 - a. Tinder - Dead twigs (dry) smaller in diameter than a match. You will need a LOT of this type of wood.
 - b. Kindling - Dry branches found on the ground about the diameter of your thumb or smaller.
 - c. Firewood (Fuel) - Dry, split wood larger in diameter than your wrist.



GREEN WOOD: Don't forget—you don't want live, or "green" wood! Live wood won't burn well, and will just suffocate your fire while it takes up space smoking. You can tell if a piece of wood is dead by attempting to snap it in half. If it breaks easily, it is dead and dry. If it bends and does not break cleanly, it is still green.

Example: A-Frame Fire Build

1. **Make the letter "A" out of large kindling or small fuel in the center of your fire pit. The center stick should sit on top of the two sides of the "A". Make sure all logs are short enough to fit completely within the ring.**
2. Place tinder inside the **top triangle of the "A"** so that the tinder sits above the floor. Sometimes it is helpful to use **one or two small pieces of kindling to hold up the tinder** by placing them across the top of the "A" first.
3. Place a few pieces of small kindling over the top of the tinder. You only need 4-5 pieces to light after the tinder—remember to leave lots of room for oxygen!
4. Light a match and light the tinder from underneath. As the fire catches add more tiny sticks gradually.
5. As the fire is burning, gradually place bigger sticks.





Tips for Successful Fires

1. Remember that fire burns up. Always hold the match underneath the tinder to light it, so that the flame burns up into the tinder, allowing it to light. This may prove difficult at first; girls often bump the match into the wood when trying to light the fire from underneath, causing it to go out. Point this out when it happens and encourage girls to keep trying.
2. When lighting a fire, resist the urge to move the match around to light the tinder in several places. This is not as effective as holding the match steady in one place. Tell the girls to hold the match still and drop it once they feel the warmth of the flame. Holding it in one place allows the match and lit tinder to get as warm as possible, and that heat is more effective than several small, less hot points.
3. When adding wood to your fire, place it carefully. Throwing wood onto the fire causes embers to fly outside of the fire, and can knock a fledgling fire apart (and can throw a spark outside of your fire ring).
4. Fires need oxygen to burn. Be careful when placing your wood to allow space for air to flow through between branches.
5. Larger sticks and logs should be added as the fire is going well. Thicker sticks are harder to start, but will burn longer. Be patient, and wait until the fire is strong and hot enough to ignite the larger firewood without being smothered out.

Dead Out

Fire safety should be stressed any time campers work with fire. Not only can a warm fire relight, but if the fire is incorrectly smothered, the heat can transfer and catch the roots of surrounding trees on fire.

To put out a fire:

1. **Let the fire naturally burn down. Then, use a long, sturdy “poking stick” to separate hot or flaming logs.**
 2. **“Sprinkle and Stir”:** **sprinkle handfuls of water** over the hot coals and slowly stir. Continue sprinkling water until no more embers can be seen. We do not want to simply throw a bucket of water on a fire for two major reasons:
 - o This will produce a significant amount of hot steam. In some cases, this may just cause coughing; in others, a face full of hot steam can inflict serious burns.
 - o When camping, you will likely need to use the fireplace several times a day. Filling it with water will not help you when it comes time to start your next fire.
 3. When the ashes appear to be out and there is no more rising smoke or steam, carefully use your hand to see how hot the air above the remaining logs and coals is.
 4. Continue moving your hand closer to the ashes. Stop when it begins to feel too hot. Sprinkle more water and repeat process.
 5. The fire is dead out when you can comfortably touch the ashes. Be very careful not to burn yourself.
 6. When the fire is out and completely cold (give yourself a few hours), clean out the fire pit. Scoop ashes out into a bucket and dispose of properly. Do not throw partially burned logs or ashes into the woods. Ashes go in the trash. Partially burned logs can be returned to fire pit after the ashes have been removed; the next group can use them, as they will still burn.
- 