

# Fires

## SAFETY

- Choose your fire area wisely. Make sure there are no overhanging branches and clear an area at least 10 feet in diameter.
- Maintain a 3-foot buffer between the fire ring and where campers will stand or sit around the fire.
- Check to ensure that no one near the fire is wearing loose or dangling clothing or accessories.
- Avoid wearing nylon or polyester clothing near the fire.
- Tie back long hair.
- Refrain from running near a fire.
- If cooking around the fire, only the cooks may be near the cooking fire.
- Never bend over the fire..
- Do not use liquid fuel to start a fire.
- Teach girls stop, drop, and roll and how to smother a fire with a blanket



It is the responsibility of the leader and the troop-overnight trained adult to check whether a fire ban is in effect at their camping site before they leave home. You can call the county sheriff or park ranger. Adults must supervise any fire very closely. Fires should never be left unattended. Remember to review fire safety procedures with your girls before starting a fire.

## **Ingredients for a Successful Girl Scout Campfire Experience**

Campfires can be a wonderful bonding experience for girls of all ages during their outdoor experience. This is an opportunity for girls to connect with each other, adults, and nature. This special time allows girls to discover their talents, skills and have fun together. Allow girls to take action and choose their own activities and ideas to make this a memorable time for them. Girls will enjoy games, stories, and s'mores, of course, around the campfire. Make sure you ask them what they want to do!

### **----- Ceremonial Wood Fires -----**

#### **Ceremonial Wood Fire Supplies:**

Wood and kindling is often hard to find at conventional campgrounds. If you want a ceremonial wood fire when you are camping in your backyard or when you are car camping, make sure you bring all of these items with you:

- A few handfuls of tinder: tiny, thin sticks and shavings or pine needles
- A bucketful of kindling: dry sticks and twigs from pieces just bigger than tinder up to pieces one or two inches in diameter. They should snap when broken.
- A lot of fuel: firm wood just bigger than kindling to four and half-inch diameter logs. Larger logs will burn best if split. If you are bringing thicker logs, bring a hatchet and know how to use it safely.
- No liquid fuel may ever be used on a Girl Scout campfire!
- Firefighting equipment: a metal buckets full of water with a "critter-stick" and a shovel.
- Matches: wooden safety matches.

#### **Where to Build your Ceremonial Wood Fire:**

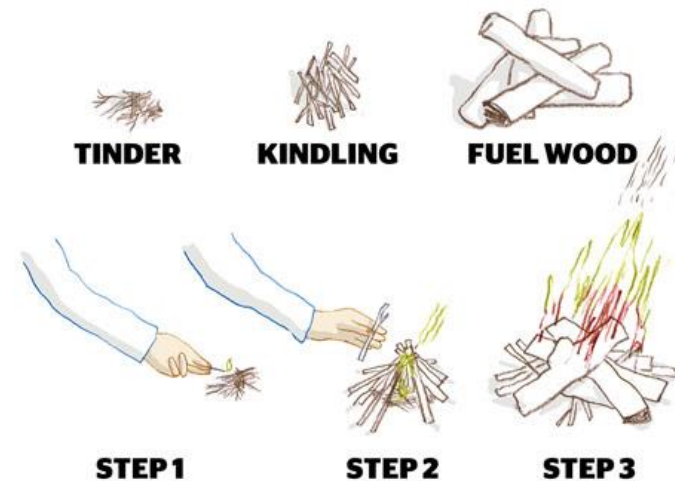
- Use an existing fire ring or fireplace away from the base of trees and overhanging branches. The fire ring should be in a clearing at least ten feet in diameter.
- Stones around the fire scar can help prevent a fire from spreading and facilitate cooking, but quartz and other rocks which can explode when hot should be avoided.

## Helpful Hints

- Choose your fire area wisely. Make sure there are no overhanging branches and clear an area at least 10 feet in diameter.
- Assemble your firefighting equipment.
- Check to ensure that no one near the fire is wearing loose or dangling clothing. Avoid wearing nylon or polyester clothing, such as jackets and ponchos. Tie back long hair. Any items that are dangling (like whistles or belts) should be tucked in.
- Emphasize to everyone that there is NO playing or running near a fire.
- If cooking around the fire, only the cooks may be near the cooking fire.
- Never bend over the fire. You could lose your balance and fall in.
- When possible, have a wool blanket nearby to smother out-of-control flames.
- When camping in a yard, it should be easy enough to use the household fire extinguisher in case of an emergency. Keep it nearby.
- Please do not use liquid fuel to start a fire.

## A Good Wood Fire

- Is not started too early and is just large enough to serve your needs and make thrifty use of fuel.
- Is kept under control and watched at all times.
- Is put out when no longer needed.



## How to Build

Lots of people have their “favorite” way to build a fire. The method is not as important as the function. Be sure that your method allows a good balance of fuel, air flow, and heat. The tinder, kindling and wood will provide the fuel, and the amount of oxygen getting to the flame will determine the heat and how well the fuel will burn. The more you practice building a fire, the better you will get.

### Here is one example of how to start a fire:

- 1) With the wind at your back, begin with the basic foundation or “A” frame made with three sticks of kindling.



- 2) Lightly pile a large handful of tinder in the angle of the sticks or on the crosspiece, so that air can circulate. Add two fire starters.
- 3) Light the tinder and the fire starters from underneath.
- 4) As the flame catches, start adding small pieces of kindling.
- 5) When the fire is going well, add fuel of graduated sizes and build the type of fire you will need – tepee, crisscross, etc.
- 6) Kindling and fuel should be added piece by piece and placed carefully so that they get enough air and can catch fire.

## **How to Extinguish a Fire:**

- 1) If the fire is still flaming, use the critter stick to spread out the wood in the fireplace or ring. Flames should go out shortly.
- 2) Sprinkle water over wood and ashes, and then stir.
- 3) Repeat until there are no live coals and you can comfortably press your hand on all dead coals.
- 4) Use a wool blanket to smother a fire only in an emergency (i.e. a great or ground fire that is out of control). Smothering a fire with dirt or water does not guarantee that the fire is out. Buried hot coals may smolder for days and start an underground or surface fire after you are gone.
- 5) Leave the ashes in the fire ring for those who follow. It eliminates the danger of burning hot coals and encourages repeated use of the same site.

## **Teaching Girls about Wood Fires**

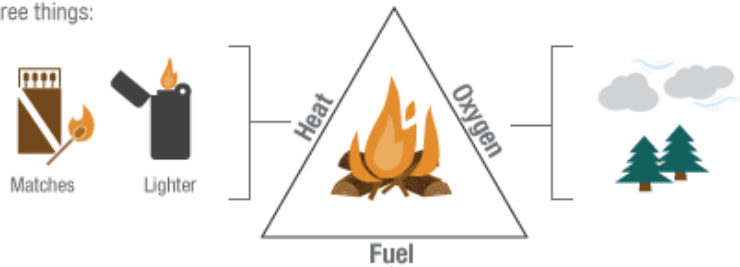
In the past, a wood fire was commonly used for warmth, cooking, and ceremonies. For conservation and safety reasons, we no longer encourage wood fires, except for ceremonial purposes. However, in the tradition of Girl Scouting, girls should learn how to build a wood fire and have a chance to practice, if possible. The Edible Campfire activity is a great way to teach your girls basic fire safety and fire-building principles.

### **Teach your girls:**

- How to put out clothing if it catches on fire.
- Stop, drop and roll.
- How to put out a fire: sprinkle water, not pouring the whole bucket on it.
- Open flames of any kind are not used in tents or in living shelters.

## THE FIRE TRIANGLE

Fires need these three things:



### 1 TINDER



### 2 KINDLING



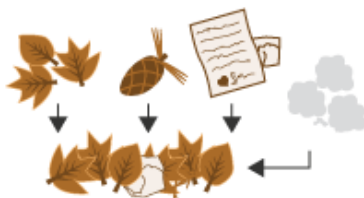
### 3 CHOPPED WOOD



## STEP ONE

Make a loose pile of tinder. **1**

**TIP:** Don't pack too tightly. Air needs to get to all parts of the fire.



## STEP TWO

Build a tepee with the kindling **2** around the tinder. Start with the small twigs first.



## STEP THREE

Light the tinder from all sides.

**TIP:** You can blow gently on the fire to get it going. Fires need lots of oxygen.



## STEP FOUR

As the fire grows, feed it with branches and eventually firewood. **3**  
Enjoy!



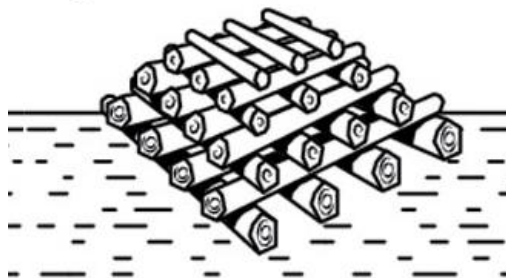
## STEP FIVE

Put out the fire by cutting one of the sides of the fire triangle. You can do this by covering it with sand or dirt, dousing it with water or letting wood burn out. **Make sure it's cold before you leave!**

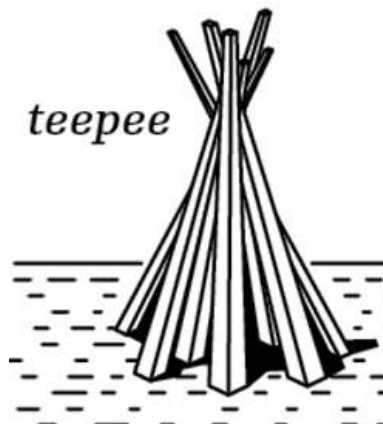


You can try building other sorts of fires like:

log cabin



teepee



You and the girls can also create your own fire starters:

- **Trench Candles:** Small pieces of newspaper, rolled, tied around the middle, and dipped in melted paraffin.
- **Egg-Carton Type:** Use the corrugated paper cartons, not plastic. Fill each cup with sawdust, lint, and/or wood shavings. Place on several sheets of newspaper. Melt paraffin or candle stubs in a double boiler. Pour melted paraffin over the top of the filled cups. After cooling, break cups apart. *(optional activity)*
- **Fire Kisses:** A small piece of paraffin or candle stub wrapped in wax paper like a candy kiss. Twist the ends of the paper to keep it closed and provide an end to light.
- **Waxed Cardboard:** Pieces of corrugated cardboard that have been dipped in paraffin.

## ----- Edible Campfires -----

*Here is a great optional activity if you are working with younger girls, or want to introduce how to build a fire to girls. And this is a great way to talk about fire safety before heading out to have a fire:*

### **Things you will need:**

- Paper Napkin = Clear Space
- Jelly Beans or M&M's = Fire Ring
- Coconut = Tinder
- Pretzel Sticks = Kindling
- Potato Sticks = Matches
- Red Hots or Candy Corn = Fire
- Pretzel Logs, Licorice, Twizzlers, or Tootsie Rolls = Fuel
- Mini Marshmallows = Fire Starters
- Cup of Juice, Water = Fire Bucket
- Spoon = Shovel
- Coffee Stirrer or Popsicle Stick = Critter Stick



*As you help your girls put the fire together, explain what they are doing and how it relates to a real campfire.*

**Directions:**

- 1) First, clear an area of debris at least eight to ten feet around where the fire will be built. Make sure there are no overhanging branches. Open up and spread out the napkin. Move any clutter back. Discuss safe places to make a fire.
- 2) Lay your fire ring. Arrange Jelly Beans or M&Ms on the napkin in a wide circle at least 5” in diameter.
- 3) Fill fire bucket and place a critter stick in it. The stick will allow a “critter” who accidentally falls into the bucket to climb out. Put water or juice in the cup; put a stirrer or stick in it.
- 4) Put your shovel nearby. Put the spoon nearby.
- 5) Lay the A-frame using kindling. The opening (the bottom of the A) needs to be facing you and your back needs to be to the wind so that the fire can get oxygen. Lay down three pretzel sticks so that they form a capital “A” with the cross-piece on top of the two legs.
- 6) Place the fire starters in the center of the A-frame, with two or three under the crosspiece. Distribute about six mini-marshmallows in the A-frame.
- 7) Now add tinder. Sprinkle coconut throughout the center of the A-frame.
- 8) Hold a match under the crosspiece of the A-frame and light the fire starters. If the fire has been built correctly, the instructor then adds the Red Hots or Candy Corn to show that the fire has been lit.
- 9) Add kindling. Add more pretzel sticks.
- 10) When the kindling is burning well, add fuel. Add pretzel logs, Twizzlers, or Tootsie Rolls.
- 11) After the fire has been approved by the leader, now the best part – they can eat their campfire leaving a clean campsite!

## ----- Charcoal Fires -----

Charcoal is a slow-starting fuel, so be sure to allow plenty of time before you need to cook (at least 20-30 minutes). Once started, you have a nice bed of coals for toasting, baking, and other kinds of coal cooking.

### What You Need:

- Charcoal (know your charcoal). Some brands start much more easily than others.
- Fire starters: solid ones that you can make at home (e.g. trench candles, egg carton type, kisses, etc.). Note: Council strongly discourages the use of liquid charcoal starters because they are extremely flammable. These should never be used by girls and are discouraged for adults.
- Firefighting equipment: a metal bucket full of water and a shovel for each fire. Put a "critter stick" in the bucket.
- Wooden safety matches.
- Charcoal chimneys: a device that helps charcoal heat to cooking stage faster. You can build your own by using a large coffee can or #10 can with both ends removed. Punch holes around each edge with a can opener, punch another series of holes around the middle, and attach a wire or coat hanger for handle.



### Where to Build

- In a fireplace or fire ring that meets the same standards as those for wood fires.
- In a charcoal stove with a closed fire pan which does not permit ash or coals to drop on the ground.
- In a fire pan, such as the bottom of a barbecue grill.

### How to Build

- 1) In fireplace or fire ring, prop the charcoal chimney up slightly on a piece of charcoal to ventilate.
- 2) Place a few fire starters at the bottom of the can then fill it with charcoal. Mixing fire starters in with the charcoal as you go can be helpful.
- 3) Light the fire starters from underneath.
- 4) In 20-30 minutes when coals have begun to get hot (they will be grey), lift the can with pliers and let the coals spread out for cooking.

### How to Extinguish

- If coals have burned completely, the fire can be put out similarly to a wood fire by sprinkling water and stirring the coals.
- Hot coals that have only partially burned should be dropped in a pail of water and allowed to soak for an hour or more.