

Outdoor Skills Challenge Activity

Fire Skills

Earn this
rocker this
month!



Learn about fire safety, the types of wood to gather for a fire, practice lighting a match, and build an A-frame, and discover how you can light a fire without a match.

By completing the level-appropriate activities in this guide (see chart below), you'll earn your Fire Skills Rocker!

	Daisy	Brownie	Junior	Cadette	Senior	Ambassador
Safety	♦	♦	♦	♦	♦	♦
Types of wood	♦	♦	♦	♦		
Edible camp fire		♦	♦			
Lighting a match			♦			
A-Frame				♦	♦	
Log cabin and tee pee					♦	♦
Matchless fires						♦

Fire Skills

Sizes of Wood: Tinder, Kindling, and Fuel



MATERIALS

Various sizes of wood

OBJECTIVE:

Girl Scouts will be able to identify the three sizes of wood used to build a fire.

Types of Wood:

Explain that in order to make a fire, there are different sizes of wood that are needed:

Tinder

- We like to call this teeny, tiny tinder. It is called this because tinder is about the thickness of a matchstick.
- Tinder is the stuff that helps get a fire going quickly.

Kindling

- Kindling should be about as thick as your thumb.
- Kindling is the stuff that keeps the small flame going after the initial lighting.

Fuel

- Fuel should be about the size of your wrist.
- Fuel is the stuff that can keep a fire going for hours. Just like in a car, you add fuel to keep your car going, the fuel of the fire keeps the fire going.

Collecting Wood:

- All wood should be dead and down - we don't pick branches off of live trees.
- Wood should be as dry as possible.
- You should be able to safely get to and transport the wood.
- Don't go in prickly bushes or poison ivy to collect wood.
- Don't go to edges of cliffs or other drop offs to collect wood.
- Anything you collect, you should be able to carry yourself.

Gather and Sort:

1. Have Girl Scouts get in partner groups. With their partner they should gather the three sizes of wood, enough to get a good fire going.
2. General rule of thumb to get a fire going is to gather:
 - A double handful of tinder.
 - A two-arm huggable amount of kindling.
 - A knee-high pile of fuel.

Fire Skills

Edible Campfires **B** **J**

MATERIALS

- Cups
- Water
- Forks or spoons
- Mini marshmallows
- Paper plates
- Potato sticks
- Thin stick pretzels
- Pretzel rods
- Red hots
- Licorice bites
- Toothpick

OBJECTIVE:

Girl Scouts will be able to identify the parts of a fire and how to feed it as it grows.

1. In order to build a fire, you need an area clear of dried grass and debris.
 - a. Place the paper plate in front of you to represent this area.
2. Next, it is preferred to have a fire inside an established fire ring.
 - a. Use the mini marshmallows like rocks to create a fire circle.
3. Now, make sure you have safety equipment ready to go. You should have a fire bucket and a shovel or rake.
 - a. Fill a paper cup with water and place it beside your fire circle.
 - b. Have a spoon for a shovel or fork for a rake beside the fire circle.
4. Now it is time to build the fire. Start by laying out kindling in the shape of an A.
 - a. Use the thin pretzel sticks to create an A shape.
5. Next, you put tinder over the kindling, leaving air in the bottom.
 - a. Use potato sticks and pile over the A.
6. Now you can light your fire, make sure you get underneath the tinder to light it.
 - a. Use a toothpick to represent a match and use your imagination to light the fire.
7. As the fire starts to go, you will see small flames.
 - a. Add red hots to represent the flames.
8. After the flames are going steadily, it is time to add your fuel.
 - a. Add pretzel rods to the fire, by gently placing them on the fire.
9. Finally, you will see larger coals, which are great for cooking on.
 - a. Add licorice bites to represent the coals.
10. Voila! You have a campfire, well an edible campfire!

Watch this video to learn how to make an edible campfire!



Fire Skills

Lighting a Match J

MATERIALS

- Q-tips
- Match box
- Red marker
- Bucket with water
- Matches

OBJECTIVE:

Girl Scouts will be able to safely light a match.

****Please remember you need a GSEP Basic Outdoors Skills trained adult in order to have a fire.****

1. Cut one end off of a q-tip, leaving one cotton end.
2. Color the cotton end red. This represents a matchstick.
3. Demonstrate how to light a match.
 - a. Hold the q-tip matchstick between the thumb and one or two fingers of your dominant hand.
 - b. Hold the matchbox in your non-dominant hand.
 - c. Firmly, but not too hard, press the red end of the match against the striker on the match box downward and away from your body.
 - d. As soon as it strikes and is lit, hold the match so that the flame burns up and not towards your hand.
4. Have the Girl Scouts practice.
 - a. Have the Girl Scouts each take their q-tip matchstick and demonstrate how to properly light a match.
5. Make sure a bucket of water is readily available.
6. Make a safety circle.
 - a. Make sure all Girl Scouts have a circle around them that no one else is in.
7. Demonstrate with a real match.
 - a. Demonstrate how to light a match, using the technique above. Then show how to safely blow it out and place it in the bucket of water.
8. Have the Girl Scouts each light a match and extinguish it one at a time. Make sure the extinguished match is placed in the bucket of water.

Fire Skills

A-Frame Campfire C S

MATERIALS

- Wood
- Fire bucket
- Matches
- Shovel or rake

OBJECTIVE:

Girl Scouts will be able to build an a-frame style campfire.

****Please remember you need a GSEP Basic Outdoors Skills trained adult in order to have a fire.****

1. Have Girl Scouts collect fire wood, all three sizes, tinder, kindling, and fuel.
2. Have Girl Scouts make sure they and the area is safe for a fire to be built.
 - a. Pull back hair, preferably cover with a hat or bandanna.
 - b. Take off any loose jewelry.
 - c. Look above the area where the fire is about to be built, to make sure there are no low hanging branches.
 - d. Clear the area of dried leaves and sticks.
 - e. Put water in the water bucket.
 - f. Make sure a rake and/or shovel is readily available.
3. Start with kindling, and place sticks in an a-frame shape. Lay two sticks on the ground in a V and cross a third stick over the first two to make an A.
4. Next, place tinder on top of the last a-frame, leaving air underneath.
5. Light a match and light the fire from underneath the tinder.
6. As soon as the tinder lights, start placing more kindling on the fire, make sure not to smother the fire, by placing too many sticks.
7. As the kindling lights, start gently laying fuel on top of the fire.
8. Your fire should only be as big as what you are using it for. There is never a need for a bonfire.
9. As you finish with your fire, spread it out and let it die. Stir it occasionally to make sure all embers are out.
10. You can sprinkle water on the fire, but never pour water on to extinguish a fire.
11. Make sure that the fire is out and cool before leaving it.

Fire Skills

Log Cabin and Teepee Campfires S A

MATERIALS

- Wood
- Fire bucket
- Matches
- Shovel or rake

OBJECTIVE:

Girl Scouts will be able to build log cabin and teepee style campfires.

****Please remember you need a GSEP Basic Outdoors Skills trained adult in order to have a fire.****

1. Have Girl Scouts collect fire wood, all three sizes, tinder, kindling, and fuel.
2. Have Girl Scouts make sure they and the area is safe for a fire to be built.
 - a. Pull back hair, preferably cover with a hat or bandana.
 - b. Take off any loose jewelry.
 - c. Look above the area where the fire is about to be built, to make sure there are no low hanging branches.
 - d. Clear the area of dried leaves and sticks.
 - e. Put water in the water bucket.
 - f. Make sure a rake and/or shovel is readily available.
4. As soon as the tinder lights, start placing more kindling on the fire, make sure not to smother the fire, by placing too many sticks.
5. As the kindling lights, start gently laying fuel on top of the fire.

TEEPEE

1. This method is usually used when you are looking for a larger fire or a fire for ambiance.
2. Start by laying an a-frame.
3. Before lighting the a-frame, build a teepee over the a-frame using kindling or fuel, depending on the size you want.
4. Light a match and light the fire from underneath the tinder.
5. As soon as the tinder lights, start placing more kindling on the fire, make sure not to smother the fire, by placing too many sticks.
6. Feed the fire as needed.
7. Your fire should only be as big as what you are using it for. There is never a need for a bonfire.
8. As you finish with your fire, spread it out and let it die. Stir it occasionally to make sure all embers are out.
9. You can sprinkle water on the fire, but never pour water on to extinguish a fire.
10. Make sure that the fire is out and cool before leaving it.

LOG CABIN

1. Start with kindling, and place sticks in a log cabin shape:
 - a. Lay the first stick on the ground.
 - b. Lay the next stick at a 90 degree angle over lapping the first stick slightly.
 - c. Lay the third stick parallel to the first stick, overlapping the second stick slightly.
 - d. Lay a fourth stick over lapping the third and first.
 - e. Continue this pattern for a couple of layers.
2. Next, place tinder on top of the log cabin, leaving air underneath.
3. Light a match and light the fire from underneath the tinder.

Building a Log Cabin Fire



Building a Teepee Fire



Fire Skills

Matchless Fires A

MATERIALS

- Lint
- Plastic magnifiers
- Concave mirrors
- Water bucket
- Strikers
- Magnifying glasses
- Flint
- Char cloth

OBJECTIVE:

Girl Scouts will be able to light a campfire without a match.

****Please remember you need a GSEP Basic Outdoors Skills trained adult in order to have a fire.****

1. Have Girl Scouts collect fire wood, all three sizes, tinder, kindling, and fuel.
2. Have Girl Scouts make sure they and the area is safe for a fire to be built.
 - a. Pull back hair, preferably cover with a hat or bandanna.
 - b. Take off any loose jewelry.
 - c. Look above the area where the fire is about to be built, to make sure there are no low hanging branches.
 - d. Clear the area of dried leaves and sticks.
 - e. Put water in the water bucket.
 - f. Make sure a rake and/or shovel is readily available.

MAGNIFYING METHOD

1. Start by building a small fire base, with good, dry tinder or lint.
2. Use the magnifiers, plastic magnifiers, concave mirrors, and/or magnifying glasses to reflect the sun.
3. Work to get a pinpoint reflection directly on your tinder or lint.

STRIKER AND SPARKER METHOD

1. Place the char cloth against the flint.
2. Flick the flint at a 45-degree angle to create a spark.
3. Once the char cloth has a spark, put it in the tinder or lint.
4. Blow on it to get the tinder to catch.
5. Your fire should only be as big as what you are using it for. There is never a need for a bonfire.
6. As you finish with your fire, spread it out and let it die. Stir it occasionally to make sure all embers are out.
7. You can sprinkle water on the fire, but never pour water on to extinguish a fire.
8. Make sure that the fire is out and cool before leaving it.