

FIRE STARTERS

Where wood is available for building fires tinder is usually at hand. Look for such things as stalks of dried weeds, pine needles, fine dead twigs, shavings cut from dead sticks. Charcoal fires, wet weather, terrain short of tinder, etc., being able to start a fire quickly for cooking often is the difference between a successful outing and a disappointing experience for Girl Scouts. Fire starters will ensure this success and are relatively easy to make.

EGG CARTON FIRE STARTERS:

Supplies Needed: Regular pressed cardboard type egg cartons
Paraffin or old candles - melted in a double boiler over hot water
Pieces of old crayons or colored candles (optional)
Flammable materials such as sawdust, wood shavings, dry pine needles, fine pieces of presto logs, or other burnable natural materials (be creative)

Instructions: Lay carton out flat, loosely fill about 3/4 full with flammable material. Fill each section with melted wax. Cool the egg carton fire starter until wax is again solid. Whole carton may be carried and one section at a time torn off to start a fire. Place one fire starter in "chimney" for starting charcoal. Leave the cardboard egg carton around the wax - it is less messy carrying and also burns well and can serve as a wick when lighting the fire starter.

TRENCH CANDLE FIRE STARTERS:

Supplies Needed: Wax paper
Broken candle pieces
String

Instructions: Take the pieces of broken candles (1-2 inches) and wrap in a piece of wax paper, leaving long "ends." Twist the ends around the candle, tie with string. Fire starter can be lit by igniting the wax paper end.

TRENCH CANDLE FIRE STARTERS: (2nd version)

Supplies Needed: Newspaper
String
Melted wax

Instructions: Roll several sheets of newspaper into a long, tight roll. Tie the roll with string at about 2½" intervals. Cut the roll between the strings. Dip each section of paper into melted wax. Hang by the strings to dry.

CHARCOAL CHIMNEYS

Remove both ends of a large #2, #2½, or #3 can, (or a 1 pound coffee size tin can). Punch ventilation holes at intervals around the bottom with the type of opener used to punch V-shaped openings. Place the can in the fire circle or on a foil base wherever you are planning to cook. Putting a double layer of foil under the chimney protects the charcoal from the damp ground. Be sure you are on clean dirt, free of flammable twigs or needles. **Never place the chimney on asphalt or wood.** Put a fire starter at a vent hole for easy lighting. Fill the rest of the can with charcoal needed for correct heat. Light the fire starter at the bottom through the vent hole. The chimney protects the fire starter and most of the charcoal from the weather and brings the mass of charcoal to the proper stage for cooking in a much shorter time.

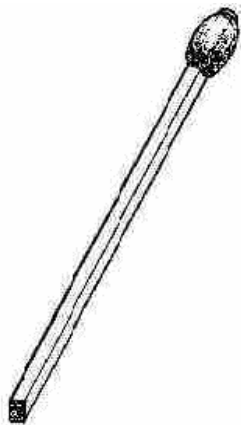
#2½ can: 1 lb. or 13 oz. can is available in peaches, pears, fruit cocktail, pumpkin, etc.

#3 can: 64 oz. can is available in juices, canned whole chicken, etc.

1 lb. can: available in coffee cans



WATERPROOF MATCHES



Matches are the original starters for any fire. Waterproof matches may be purchased, but by “doing your own” you not only provide an opportunity for the girls to learn a good skill but you also save money. To waterproof the match, dip the match head into clear nail polish. Stick the matches down in a corrugated box edge to dry. Drying can take up to a week. Plan to prepare matches well before camping. When the matches are dry they can be wrapped in foil or carried in a small watertight plastic container. Do not use glass because it is too easy to break. They can also be carried in the smallest metal band-aid box. A piece of sandpaper or emery board can be glued on the inside of the lid to ensure access to a “striking” surface.

BUILDING A FIRE

Fire Ring: To safely build a fire, you need a fire ring. This should be a cleared piece of ground at least 10 feet in diameter, surrounded by rocks or large logs. The ground must be clear down to mineral soil (no twigs, leaves, forest floor litter, etc.). There should be no trees or bushes above the fire ring.

Things to burn: There are three types of materials used in fires - tinder, kindling, and fuel.



Twigs



Bark



Fuzz Stick

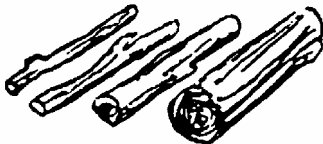


Shavings

Tinder: That material which catches fire from a match. It should be no thicker than a match, but longer. Shavings or fuzz sticks, fine twigs (especially from evergreen trees), bundles of tops of bushes or weeds, pieces of fat pine, thin pieces of bark, and dried bracken fern all make good tinder. Paper works, too. Beware of light materials like grass or leaves. These flare up quickly, have little real substance and burn out too quickly to catch on anything heavier. Light materials also may blow away and become a fire hazard to the surroundings.

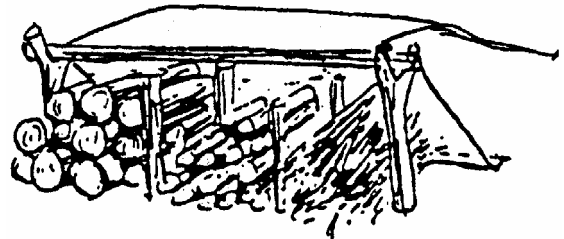


Kindling: Good dry sticks graduated in size from pieces just bigger than tinder, up to pieces as thick as a thumb, and from six to twelve inches long. Larger pieces may be split for kindling. On wet days, dead branches hanging in trees may be used for kindling. Do not use any branches that bend rather than break - they may be too wet to burn well. Do not break branches still attached to trees.



Fuel: The real fire material. Good firm pieces of wood, graduated in size from pieces just bigger than kindling to good sized logs, depending on use. Charcoal is often used as fuel too. Downed trees may be cut up and used for fuel, but avoid rotten logs. Rotten logs will burn, but give almost no heat. Pine and other evergreens burn quickly, with bright flames, but do not make good coals. Oak and other hardwoods will give good coals that burn for a long time, but with less flame.

Woodpiles: A good woodpile is a convenience, as well as a safety device. Stack wood so that tinder, kindling, and fuel are in separate piles. Place woodpile near fireplace far enough away so campers do not have to walk in it to get around the fire, and far enough on the side away from the wind so sparks cannot possibly fly into it. Cover your woodpile with a tarp at night or when it looks like rain.



BUILDING A FIRE

How to Build a Foundation Fire

This fire is the base that all types of fires are built around. Have ready at hand matches, a big handful of tinder, a double handful of kindling, and the fuel you will need. Once you have lit the fire, someone must always stay by it to act as a fire watch.



Kneel with wind at your back; take two small sticks of kindling and place to form an angle in fireplace with the open end facing into the wind, as shown in figure 1 at left. Place a third stick across the first two to form an "A". This is your prop for the tinder.



Pile a good bit of tinder against the crossbar, but do it lightly so that air can flow through the pile. Be sure all of the pieces touch each other. Leave a small tunnel at the bottom for the match. (fig. 2)

REMEMBER: Fire needs air to burn. Flames burn **up**. Only material in the path of the fire will burn.



Strike match, tipping down, so flame catches on wood (cup match in hand, if necessary - fig. 3). When well lighted, stick flame in air space, putting flame under the center of the pile of tinder. If match goes out, use it as extra tinder. Blow gently at base of fire if necessary.



As flame catches and begins to spread, add bits of tinder, placing gently over flame until there is a brisk fire. (fig. 4)

Then begin to add pieces of kindling, one by one, placing lightly where flame is best; starting with small pieces, gradually adding bigger pieces to form a teepee shape. Do not make any **sudden** changes in size of wood used; add pieces that are just a bit larger than those already burning, until you are using thumb sized sticks. (fig. 5) Have a good supply of kindling at hand; it burns surprisingly quick.



REMEMBER: Build gradually. Keep fire compact, each piece of wood touching other pieces for most of its length.

When fire is going well begin to add fuel in graduating size, building into the kind of fire you will need.

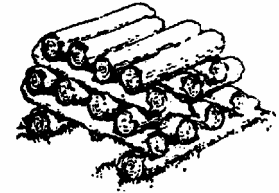
Do not make the fire bigger than you need. That wastes wood and makes putting it out much harder.

Various Fires include **Teepee Fire**, **Criss Cross Fire**, **Hunter's Fire** and **Reflector Fire**.



Teepee Fire: A quick, hot fire. Built like a foundation fire, but kindling and later fuel wood is placed just above and around tinder in shape of a teepee.

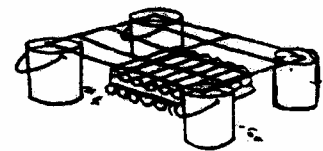
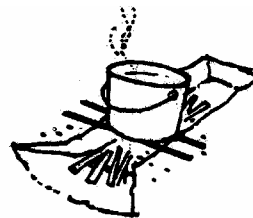
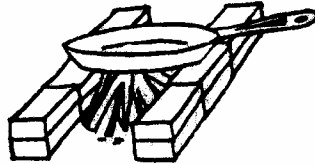
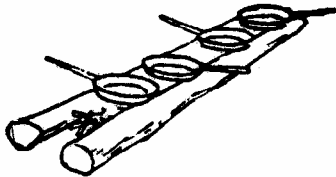
Criss Cross: A solid fire that burns to coals and is long burning. Start with a foundation fire and add fuel in log cabin fashion. Remember to leave space between the logs for air. Use the largest logs at the bottom of the fire. This can also be used for a ceremonial fire.



Hunter's Fire: Good for skillet cooking and one-pot meals. Built with two large logs laid in direction of wind. A foundation or teepee fire is laid first.

Reflector Fire: Provides a steady and high heat for baking or planking. Heat is reflected to oven or plank usually by tin foil.

Build a fireplace to fit your kettles.



PUTTING OUT A FIRE

- ◆ Fire is not out until ground under it is cold to the touch.
- ◆ Stir the embers with a metal rake, turning over any remaining large logs.
- ◆ **SPRINKLE** water on the embers while continuing to stir, or splash water out of a bucket or hose. Do not pour water directly from the bucket onto the fire. Continue stirring and sprinkling until no live embers remain. Again turn over any remaining logs.
- ◆ Rake ground thoroughly, and continue adding water until ground is cold and you can place your hands near the ashes for at least 30 seconds. There should not be any smoke or steam rising from the ashes.
- ◆ After a few minutes double-check your work. Is the ground still cold?
- ◆ Put away the rake, shovel, and bucket.
- ◆ Do not remove burnt wood from the fire circle. You may spread logs to the edges, but never stack burnt wood back in the woodpile.