

# FIRE BUILDING

*Builder Level*



## Purpose

To teach you how to build **safe** and **useful** fires under all conditions and so improve your camping enjoyment.

Pre-requisite. A Cadet must have earned the Axemanship Badge before being awarded the Fire Building Badge.

## Learning

Write the following details below and memorize them.

### 1. Four things to know before building a fire.

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- a. Is it allowed? During fire restriction periods open fires are illegal in many parks and privately owned recreation areas.
- b. Is there a plentiful supply of firewood? Is it easy to find? It shouldn't be necessary to spend hours chopping wood to cook your food.
- c. How badly will my fire destroy the ground cover in this area? Some camp sites have designated areas for fires. Others do not. Be certain a fire is necessary before you dig up grass or any plant life to prepare a fire bed.
- d. Is it safe? Be sure the fire danger to the forest area is low. Never light a fire during a high fire danger period. Find out from local authorities if open fires are permitted before you go on your outing.

### 2. Three rules for fire safety

- a. Clear the ground. If you are unable to use a regular fireplace, clear the ground of leaves, grass, and dry moss. Clear until you reach solid dirt or at least a three-metre diameter area. Sand or rocks also make a suitable fire bed. Be certain to clear a large enough area for the size of the fire you intend to build. (For a small cooking fire, this should be a clearing three metres in diameter! The larger the fire, the more ground you need to clear, so do not build a fire any larger than you need). If possible, surround the fire with a circle of rocks.
- b. Control the fire. Do not build a larger fire than necessary. Never leave a blazing fire unwatched.
- c. Put out the fire completely. Sprinkle (do not pour) water on the embers. Stir with a stick until only soaking wet ashes remain. Turn logs and sticks and drench both sides. Wet the ground around the fire. Cover the spot with dirt or bury the wet ashes. If sod was removed, replace it. Make the site look as though no one had been there.

### 3. Three types of fire material

- a. Tinder - This light dry material ignites quickly to start the fire. Crushed eucalyptus bark is a good tinder. Be careful not to take too much from live trees,

use what is lying around on the ground or hanging loose from the trees, or fallen logs. Other useful tinders include dead pine cones, wood shavings, match-sized twigs, chips of pine or other softwood. Dry leaves and grass will not usually burn long enough to start a fire although dry gum leaves may help to ignite your tinder.

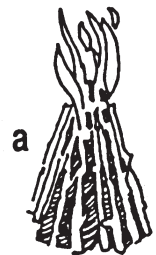
- b. Kindling - This material ranges in size from small twigs to finger-sized pieces of softwoods. It will cause the fire to burn long enough to ignite the larger pieces of firewood. Split wood in short lengths also works well.
- c. Fuel - Also called 'Firewood', a good supply of fuel should be on hand to keep your fire burning. Beware of green or rotten logs. Split damp wood and you will usually find it dry and useful on the inside. Since the burning qualities of woods differ, be sure to pick the one best suited to your needs.

#### 4. The values of Soft Woods and Hard Woods

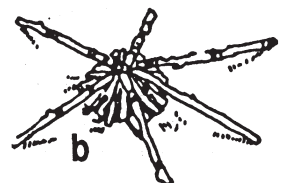
- a. Soft woods - for kindling and bright, quickly-burning fires: cedar, pine; most needle-bearing trees.
- b. Hard woods - for fuel and slowly-burning fires which leave hot coals: oak, mountain ash, eucalyptus (gum trees); these trees are usually 'broad-leaved'.

#### 5. Various fires and their uses

- a. Tepee – because of its burning qualities, the tepee is often used to start other types of fires. Build a tall slender cone of kindling, leaving plenty of air spaces. When kept small, this makes a hot, concentrated fire for boiling. Long pieces of firewood may be stacked around the tepee for a larger, brighter blaze.



- b. Star, or Lazyman's – after a suitable fire has been kindled, it can be kept burning slowly and easily by feeding it from several directions with long poles. As the overlapping ends burn down, the poles are pushed up further into the fire.



- c. Reflector – a good fire of hot coals can be used for baking and heating with a suitable reflector of logs, metal, or stone. The wind direction should be against the reflector and force the heat (not smoke and flames) back to the oven or shelter. A night fire needs several good back-logs firmly braced so they will not roll in case the bottom ones burn.



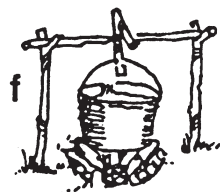
- d. Hunter-Trapper – this practical cooking fire makes the greatest use of a small amount of heat. Two green logs of slow burning wood (or several long flat stones) are arranged in V-shape with the open end facing the wind. A tepee fire is built between them and the hot coals spread out evenly. Small pots are placed at the narrow end - larger pots near the open end.



- e. Trench - serving much the same purpose as the hunter-trapper fire, it consists of a groove cut in the ground sloping to a depth of about 30 cm. The trench should be three times as long as it is deep, opening into the wind for proper draught.



- f. Fire-in-a-hole - as simple as it sounds, this fire is built in a hole to collect a bed of hot coals. It is especially good for stews and other dishes you want to cook for a long period of time.



- g. Council - to give enough light for a campfire circle, you need a large fire of at least one-metre high and just as wide. First build a large tepee fire and surround it with logs laid in a criss-cross pattern, log cabin style. Use heavier logs for the base, with gradually smaller pieces coming together at the top - like a pyramid. Allow enough air space so you can light the tepee fire inside.



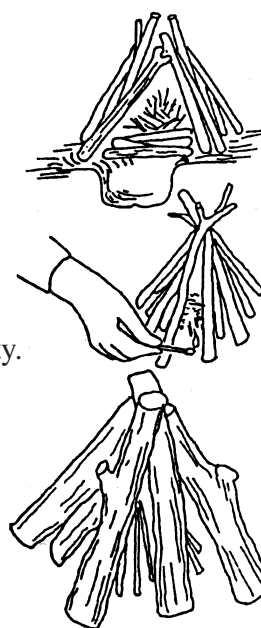
## 6. To start a fire after a rainstorm

The best way is to be prepared ahead of time! A firestarter can easily be made along with water-proof matches by dipping paper rolls (using strips of newspaper) and bundles of matches in melted paraffin or candle wax. Other fire-starters that will still give some measure of success include fuzz-sticks, gum bark and pine cones.

Remember, even after a rainstorm, you can usually find that wood is dry on the inside. Get some by whittling a log into small thin strips. Start small and build up the fire as it is going.

## Doing

- Demonstrate how to start a fire.
  - Using two fingers to cut a groove over which very small twigs and tinder is laid.
  - Set twigs and thin branches in tepee fashion.
  - Light the fire placing match in groove under tinder.
  - Add larger pieces of wood later as fire builds in intensity.
- Make a supply of 20 water-proof matches.
- Demonstrate the seven camp fire lays.
- On a camp-out or day trip, build at least two different types of campfires without help. Then douse the fires until they are completely out.



Ask your Counsellor to sign below and arrange for the presentation of your badge.

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