FIRE LIGHTING

and

Burning Properties of Woods

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FIRE LIGHTING

Preparing To Light A Fire
The surface where the fire is to be lit must be incombustible and not likely to be damaged. Options are to use a designated fireplace, an altar fire or to dig a trench.

Altar Fire
Trapper Fireplace
Trench Fire
Hunter's Fire
Gypsy Fire with Crane
Reflector Fire
Reflector Fire with Crane
Camp Oven
Altar Fires.

An altar fire is a base for a fire raised off the ground and it may be pre-constructed, often half an oil drum on legs, or made as needed.

An example of making an altar fire is to lay several logs on the ground with another layer at right angles. In the second layer the logs need to be close together. At least 15 cm of soil or sand is then put on the logs. Alternatively the second layer of logs can be more widely spaced and then covered with a sheet of metal (preferably iron) before the soil is put on.

Obviously there will be variations in construction depending on the materials available, but a good air gap and insulating layer (soil) must be between the ground and the actual fire to avoid damage to the ground.

Note: At Walesby campsite a lot of the site is on peat and if this gets alight it can spread rapidly and is difficult to put out, therefore they only permit the use of altar fires.

Trench fires.

If the owner of the land is agreeable, a trench may be dug in which to light the fire.

A recommended minimum size for the trench is 60cm by 90cm, but the size can be altered depending on the size of the fire needed. The narrow end of the trench should face into the prevailing wind.

If the ground is grass covered carefully remove the turf by cutting down round the outline of the area and try and remove the turf at least 5cm, and preferably 7.5cm thick in as large pieces as possible.

When the turf has been removed carefully put it to one side, stacking it grass side down in a place where it isn’t going to be trampled on e.g. the hedge bottom. If the trench is to be left open for some time the turf must be kept watered.

After lifting the turf more soil can be taken out and again kept to one side. When finished with the fire clear the ashes, water the ground well and replace and water the turf.

Where the ground is bare it is still advisable to dig a trench.

The edges of the trench will need protecting, thick logs or rows of bricks can be used.

The logs or bricks should also be used on altar fires

WARNING: Some natural stone is liable to explode if heated and should therefore be avoided when constructing a fireplace.

There are a number of improvements that can be made such as adding a reflector made of logs, metal sheet or large frying pan. An oven can also be added.

Getting the fire going.

Before setting light to anything collect enough wood of various thicknesses to be able to keep the fire alight for some time. Try and collect wood that has not been on the ground and therefore should be reasonably dry.

Start building with thin easily burnable material - tinder. Some ideas are:

Thin hawthorn or birch twigs. Dead twigs can usually be found on the trees fairly easily; bend the twig gently if it breaks off use it, if it just bends leave it on the tree. There should be plenty the thickness of match sticks and then more of increasing thickness.

Silver birch bark, but only peel it off a live tree if it has started peeling already, DON’T cut it off with a knife or axe.

Fir cones. Cramp Ball (King Alfred’s Cakes) Fungus.

Dry moss. Dry leaves or grass.
Wood shavings – split a log and make shavings from the inside, it will be reasonably dry.
A ‘punk’ or ‘fuzz’ stick. Get a stick, make shavings, but leave them attached to the stick.
For making life easy (cheating?)
Wire wool, Cotton wool, Candle-stub Firelighter.
To claim to be a proper Scout try to avoid using paper or firelighters.

**Definitely do not use flammable liquids: no paraffin** and **ABSOLUTELY NO PETROL**. If extreme
care isn’t taken they can ignite in unexpected places. I learnt the hard way. I threw some paraffin on a
fire I thought was out, but flames leapt back up towards the container and onto my clothes. Fortunately
a friend pushed me over and rolled me over to put the flames out. I was lucky not to be burnt, just
singed eyebrows.

YOU HAVE BEEN WARNED.
Flammable liquids can also taint the food even after they appear to have burnt off.

**Start building the fire.**

Put a couple of parallel thicker sticks down for a base. If you are using twigs put a layer of the thinnest
across the sticks then another layer at right angles for four or five layers gradually using thicker twigs.
If you are using one of the other types of tinder put it between the logs and then build up layers as for
twigs, using thinner timber to start with.
The next stage is to get some larger wood into the construction; either build up round the base like a log
cabin, two sticks to each layer, each layer being at right angles to the previous layer gradually forming
a pyramid, or lean the sticks over the base to form a cone.

![Pyramid Fire](image1.png)  ![Cone Fire](image2.png)

**Light the fire.**

There are several ways to set light to the fire.
The sun and magnifying glass – In this country? I must be joking!
Flint and steel. Make sparks with the flint and steel and let them fall onto some tinder (steel wool,
cotton wool, dry moss) and carefully encourage the tinder to burn.
Rubbing two sticks together – or Drill and Bow.

Use a match. Keep matches dry by coating them in candle wax and in a waterproof container. Safety matches will not strike except on their own special box, so use non-safety ones. If matches get damp try rubbing them through your hair, they may then light when struck. Always strike matches away from you.

Keep the fire going by adding wood a piece at a time, don’t dump a mass of wood on all at once. Split logs burn better than un-split ones.

When lighting a campfire be spectacular and use a blazing torch!

**Using a fire for cooking.**

The best way to use the fire is to make sure there are plenty of embers and try to avoid cooking over flames. This is particularly important if you are cooking food directly over the fire e.g. sausages on sticks or twists. Flames are the enemy of aluminium foil so cooking in foil must be done in the embers.

Coat the outside of the cooking containers with a paste made of soap powder and water, a coating of washing-up liquid may also work. Keep the soap well away from the lip of the container to avoid the soap getting into the food. The soap coating makes the container much easier to clean when you have finished using it.

**Supporting cooking containers.**

The logs or bricks can support a metal grid or the cooking containers can stand directly on them.

Another way is to use a forked stick at each end and hang the containers on a stick supported on them. (Watch out that the structure doesn’t catch fire!)

A third way is to put a stick in the ground at an angle over the fire and hand the container from it.

**Burning of waste on campfires and bonfires.**

The Environment agency has issued a ‘Regulatory Position Statement’ - ‘Burning of waste on campfires and bonfires’ and this document should be read and complied with before lighting fires.
Burning Properties of Woods

A rhyme to help you to remember:

These hardwoods burn well and slowly,
Ash, beech, hawthorn, oak and holly.
Softwoods flare up quick and fine,
Birch, fir, hazel, larch and pine.
Elm and willow you'll regret’
Chestnut green and sycamore wet.
BURNING PROPERTIES OF WOOD

Alder
Poor.
Makes good charcoal.

Apple
Good for cooking and smoking. Pleasant smell

Ash
The best burning wood providing both flame and heat and if necessary will burn when green.

Beech
A rival to ash, though not as good and only fair when green.

Birch
The heat is good but it burns quickly. The smell is pleasant.

Cherry
Burns slowly with good heat. Another wood with the advantage of a pleasant scent.

Douglas fir
Little flame or heat.

Elder
Mediocre. Very smoky quick burner with not much heat.

Elm
Unpredictable since Dutch elm disease. Can, but not always, smoke violently. One large log put on before bed will keep the fire in for the morning.

Hawthorn
Quite one of the best woods. Burns slowly, with good heat and little smoke.

Hazel
Good.

Holly
Good.
Horse Chestnut

Poor for kindling or cooking.

Oak

It is sparse in flame and the smoke is acrid. Very old dry seasoned oak is excellent for heat, burning slowly and steadily and producing little ash.

Sycamore

Good. Burns with a good flame with moderate heat.

Yew

Last but one of the best. Burns slowly with a fierce heat and the scent is pleasant.

Lime

Poor. Burns with a dull flame.

Spruce

Burns too quickly and with too many sparks.

Willow

Poor. Burns slowly with little flame even when seasoned and is apt to spark.

Walnut

Good with a pleasant scent.

Maple

Good.

Sweet Chestnut

Poor for kindling. Average for cooking.