



firecraft



what is it?

It's starting and managing fire, which requires fuel, oxygen and ignition. The more natural methods usually progress from a spark to an ember to a flame in fine, dry material (tinder), to small, thin pieces of wood (kindling) and then to firewood.

Early humans collected embers from forest fires, lightning strikes and even volcanic activity. Archaeological evidence puts the first use of fire between 200-400,000 years ago – a time that corresponds to a change in human physique consistent with food being cooked - e.g. smaller stomachs and jaws. The first evidence of people starting fires is from around 10,000 years ago. Here are some ways to start a fire.

Friction: rubbing things together to create friction that generates heat and produces embers. An example is a bow-drill, but any kind of friction will work – e.g. a fire-plough, involving a hardwood stick moving in a groove in a piece of softwood.

Percussion: striking things together to make sparks – e.g. flint and steel. The sharpness of the flint creates sparks - tiny shards of hot steel.

Compression: fire pistons are little cylinders containing a small amount of tinder, with a piston that is pushed hard into the cylinder to compress the air in it, which raises pressure and temperature enough to ignite the tinder. Fire pistons appeared in the early 19th century in the West, but had been used before then in Asia – usually in cultures that use blowpipes, from which it is believed the fire-piston was developed.

Light concentration: using a lens or a mirror to focus the sun's rays to create intense heat in something flammable.

Fire striker: a manufactured tool that strikes two pieces of (different) metal together to create sparks from the softer of the two metals. This tool is sometimes called a flint lighter, even though it doesn't contain flint.

Matches and lighters: too easy to be considered real firecraft, but a way to start a fire nonetheless.



Using a bow-drill.



Sitting around a fire has been a relaxing, comforting and community-building activity for many millennia.

what are the benefits?

From an environmental perspective, the more natural the method the better. For example, strikers, fire pistons or lenses don't need fossil fuels or phosphorus, which require the highly-destructive oil and chemical industries, and friction methods don't require the mining, factories and roads required to manufacture anything at all. Bow-drills / hand-drills can be made from natural materials that are completely biodegradable.

Firewood is a renewable resource (as long as we plant more of it, allow it to regenerate, or, in bushcraft, if we only use dead wood). Firecraft is an essential bushcraft skill, making it easier to spend more time in wild nature – which engenders an understanding and ultimately a love of nature; and people who love nature will want to protect it, which is vital for our survival.

Making fire the natural way is satisfying, fun and makes one feel viscerally connected with nature, and with human history. It's usually quite a euphoric moment when someone manages to make fire for the first time.

More seriously, firecraft is a basic survival skill. A fire can give heat and light, purify water, allow cooking, keep wild animals away, harden tools and weapons, and produce smoke to preserve food or to reveal your location to potential rescuers. More than this, fire is a boost to morale. Studies have shown that sitting around a fire relaxes us and lowers blood pressure. Even a flame on a screen can do the same thing. Maybe we've developed alongside fire for so long that the pleasant experience associated with it is part of our psychological make-up. Sitting around a fire as a group builds community cohesion too.



what can I do?

Confidence brings success, and comes from practice. It's not something you can learn from a book – either learn from someone with experience, or attend a course.

Victorian homes often had a tinder-box of dry material for starting a fire. Flint & steel were struck together to cause sparks that fell onto a 'char cloth' – a plant-based fabric that had been subjected to pyrolysis (heat without oxygen) to produce material with a low ignition temperature that charred and glowed with a tiny ember. This was transferred to the tinder, which ignited and was used to ignite kindling, then firewood. It was a common method that may return to fashion if matches or fossil fuels are unavailable.

But most firecraft skills are used in bushcraft situations. The most natural way to light a fire is by friction, using a bow-drill (or a hand-drill, which is harder on the hands, but doesn't require cord, which is hard to make and wears out). This requires a spindle, bow and hearth – all of which you can make yourself, or you can buy kits from bushcraft shops. The bow is used to turn a spindle rapidly to create friction and heat in a little bowl in the hearth, which makes dust that gets hot enough to turn into embers that are introduced to a 'nest' of tinder. Get practical experience – even the position of your body makes a difference, as you need to maintain pressure on the spindle whilst turning it rapidly. Use a flat stone or piece of wood to apply pressure to the top of the spindle. You also need to keep sharpening your spindle.

Tinder can be dry grass, bark (e.g. clematis, or birch, which contains flammable, volatile oils), or some types of fungi, like King Alfred's cakes. The trick is to transfer an ember to a 'nest' of tinder, hold it in your hands and blow or waft it until smoke appears, then keep blowing until it bursts into flame. Have kindling ready to apply the nest to, and then firewood to add to the lit kindling. Carry a leather tinder pouch around with you, and when you find dry material for tinder, pop it in the pouch. Carry the pouch close to you, and the warmth of your body will keep it dry.

The flint and steel method involves a piece of carbon steel (bought from a bushcraft shop) and a piece of flint (found and 'knapped' to give a sharp edge, or bought). The steel is usually struck with the flint, although it could be the other way round.



Dry grass nest about to ignite.

Practice until you get the right angle and speed to create a shower of sparks to ignite your tinder. You may want to make your own char cloth, by putting some linen or cotton in a small tin with a lid and a hole to allow pressure and smoke to escape. Put the tin in a fire until you see smoke coming out. Take out the tin and you should have charred cloth that can be used to turn sparks into embers that can be introduced to your tinder.

Flint and steel isn't a completely natural way to make fire, as although flint is naturally-occurring, carbon steel isn't. A similar method is a (manufactured) ferrocium rod that can produce sparks when scraped with a knife. Ferrocium comprises the 'flint' in modern lighters, so this method is the same as a lighter, but on a bigger scale, with tinder as fuel rather than butane.

Kindling can be dry twigs or pine cones etc. You should find plenty of dead wood for your fire. Instructors have insurance and will have done a risk assessment, but in the wild, you're on your own. Safety is a common sense - take more care in a dry, forested country in summer (if fires are allowed at all) than in a wet country in winter.

resources

- lowimpact.org/firecraft for more info, courses, links, books, including:
- Buck Tilton, *the Complete Book of Fire*
- D & V Aman, *How to Kindle Fire*
- Suzanne Fischer-Rizzi, *Cook Wild: Year-round Cooking on an Open Fire*
- chrismolloy.com/page.php?u=p136 fire making
- naturalbushcraft.co.uk/fire - bank of articles and videos on firecraft
- campfiresburning.org - open fire recipes

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