

DEEL 1

How do you make fire

01	XX	History 1.1 The discovery of fire
02	XX	What is fire 2.1 The color of fire
05	XX	Make sparks 3.1 Sparks
04	XX	Spark, flame, fire 4.1 Tinder 4.2 Kindling-wood 4.3 Firewood
05	XX	Campfire 5.1 Build 5.2 Making fire step by step

DEEL 2

The fire is burning, what now

01	XX	Cook 1.1 rcipes
02	XX	Myths 2.1 Days are getting longer
05	XX	Stories & games 3.1 Community feeling 3.2 Games
04	XX	Ukelele spelen 4.1 Left and right
05	XX	The starry sky 5.1 Which star is that
06	XX	Extinguish fire 6.1 Very important!



PART 1

- Chapter 2 -

What is campfire?

2.1

The color of fire



**FLAMES
TEMPERATURE
RADIATION**

The hotter a fire, the less color
it has. A white-hot fire is hotter
than a red-hot fire



Pyrolysis

The burning of wood consists of multiple processes. The first is pyrolysis. If you put a piece of wood in a fire, take care of it the heat of the flames causes volatile gases to escape from the wood. The flames you see with burning wood are these gases that burn. If you look closely, you will see that the flames always hang a little above the wood.

Charcoal

If the gases have escaped, charcoal remains behind. When you heat charcoal, the carbon reacts with oxygen to form carbon monoxide. If there is sufficient oxygen, carbon monoxide continues to carbon dioxide, water vapor and if. This is a slower reaction, but remains charcoal for so long afterglow.

The whiter the hotter

The color of fire depends on the temperature and the fuel that is burned. Every object emits electromagnetic radiation. If an object is very warm, you can feel the radiation up close, when it gets hotter, you can see the radiation. Then the object becomes red-glowing. If it gets even hotter, the colors yellow and blue are added. The color turns white through each other. The whiter the hotter the fire.

If the fire has a pronounced color, chemicals are heated. Creators of fireworks usually use metal salts to make colors, such as sodium chloride, or kitchen salt. Throw a little kitchen salt into the heat and it will turn sodium yellow.

TINDER



DUST
STRAPS
BIRDNEST

Once you have a spark
or a piece of glowing wood, you have a tinder
needed to get real fire.

DUST

Perhaps the most important step in making fire is to collect a good tinder. Tondel is the collective name for everything that is highly flammable. Keep tinder at a smoking piece of wood, a glowing metal chip or just a match or a lighter, and a fire is created.

Examples of good tinder are fluff from a cattail, dry mushrooms and pine needles. Prima tondel is also an old bird or mouse nest. You can also make such a litter yourself from dry grass, slightly thicker twigs and pine needles. The trick is to collect these materials when you come across them, and keep them dry in your trouser or jacket pocket, so that you can also make fire if it is wet or raining. If you do not want it to happen by chance, you can of course also bring tinder from home. A fuzz which is mixed with petroleum jelly is flammable. A drained tampon, possibly mixed with some lip balm, also flies quickly on fire.

SWAMS

The tunder mushroom is quite easy to find. But before you can use it as a tinder, you still have to do something. Our distant forefathers

used the tundra almost as a kind of lighter. The 'iceman' Ötzi, who was found in the ice on the border between Austria and Italy, had four objects with him, made from the tundra and the birch mushroom. The cotton-like layer (amadou) of these fungi was beaten or cooked until it softened. They were also soaked in horse urine. The tinder made of such fungi is magical material. A spark that falls on this tinder results in a glowing tip that can continue to smolder for hours. A glowing piece of tundra could be used to bring fire from one place to another. If you put dry grass or lisod debris on them and blow them you can make a flame again.

COTTON

Charcoal cotton works just as well. Put a cotton shirt in a metal tin with a hole in it. Throw it in the fire. If a flame is visible above the hole, it means that the carbonisation process has started. The final result is black charred cotton, which you can use in the same way as the tundra. A spark that falls on it - no matter how small - will cause a small glowing point that will not go out easily.

- DEEL 2 -

**The fire is
burning, what
now?**

Bread dough on a branch

The easiest way to cook with a campfire is to poke something on a branch and hold it over the fire. Like a marshmallow, or bread dough.

Recipe for 8 rolls

Ingredients:

500 grams of flour

bag of baking powder

pinch of salt

50 grams of butter at room temperature

approx. 500 ml of water

Method

Stir the flour, the baking powder and the salt together. Add the butter and the water and knead to a smooth dough. Divide it into eight spheres. Wrap a ball around a stick. Make sure the tip of the stick is covered (so that it does not burn). Also make sure that the dough is not too thick around the stick (otherwise it takes too long). Turn the stick around the fire. You can fill the hole with butter, sugar, cinnamon or a frankfurters.

Another option is to make flatbread. You do not need yeast or baking powder for this. You can mix flour with some fat and herbs and make small balls. Roll out the small balls with a stick into flat rolls that you can simply bake in the fat, for example in the frying pan, or the lid of a frying pan, or on a flat stone that you have placed in the fire.



WHICH STAR IS THAT



POOLSTER MEASURING INSTRUMENTS ORION

People stayed awake longer through the campfire.

They got to know the moon and the stars well.

De sterrenhemel maakten de verbeelding van het

The starry sky made the imagination of it

of vulnerability to evil spirits.

THE POOLSTER

If you look closely at the starry sky, you will learn that the star-sky is slowly turning. Well, actually the earth is of course running. Anyway, there is one special star that always stays in its place. That is the North Star. Old sea captains used the North Star for navigation. If you are heading in the direction of the North Star, you went north.

You can find the pole star by looking for the Big Dipper. If you extend the two outer stars of the saucepan net, and extend this distance five times, you end up at the North Star, which itself is part of the constellation the Little Bear.

NAVIGATE

Old seafarers looked with measuring instruments in the direction of the North Star because you can read the latitude on which you are standing by its position. It is the angle between the horizon and the imaginary line to the North Star.

The seafarers used a quadrant or a sextant to measure that angle. You can also estimate the angle if you put your fist in the direction of the horizon, put your other fist on it and continue stacking your fists until you reach the pole star.

Every fist is about 10 degrees. You do not have that much in the forest, of course.

ORION

The three bright stars that stand together in a short line are the belt of Orion. If you stretch out your left hand and hide the three stars behind the palm of your hand, you see two bright stars with your little finger and your thumb. Betelgeuse and Rigel. Betel-Geuse is a super-sized star that is about to collapse. Maybe he even exploded. He is hundreds of light years away from us, which means that light takes hundreds of years to come to us. We literally look far back in time when we look at the stars.

Betelgeuse and Rigel are the left upper corner and the lower right corner of an hourglass shape. In the middle of the hourglass glass on the bottom is another bright star. This is the point of the sword of Orion and points to the south. The starry sky moves through the rotation of the earth. The star of the belt of Orion that comes first and also the first one has the name Mintaka. The place where it comes is the east and where it is undergoing is the west.

LEARN TO SEARCH STARS IN 6 STEPS

01. Find the polestar

We assume that you are in the northern hemisphere. Find out where the north is and find the pole star. This is the bright star that is pretty much to the north. The beauty of the pole star is that it always stands in the same place, at any time of the night and in every season.

02. Find the big bear

The stars near the pole star are therefore always visible. The easiest recognizable star image is the big bear (Ursa Major). Seven stars that together form the shape of a team. It is also known as the saucepan.

In autumn it is close to the northern horizon. In the early summer he can be seen above the pole star.

Astronomers share the strength of starlight on a scale of one to six. The light intensity of the stars in the big bear are of the factor 2 and 3. They are clearly visible in clear weather, unless you are in the center of a city. But do not look for super bright stars.

05. Find Cassiopeia

If you have found the big bear, see that the last two stars (from the pan) point in the direction of the pole star. If you extend the line to the other side you will find (about) Cassiopeia, five stars in a zigzag structure.

04 The South

The constellations in the north are relatively easy. But the real work is done in the south. The constellations in the south change from month to month, which is why a constellation is linked to your date of birth. Unfortunately, they do not only change from month to month but also from hour to hour. Like the sun they rise in the east and go down in the west.

05. App

The easiest way is to use the many apps that are available for your smartphone, which show exactly how the stars are at the moment you look up. You will discover that very well-known constellations such as Pisces or Cancer are very difficult to see or invisible, while unknown constellations are often clearly visible again. In astrology the starry sky was divided into twelve parts. In some parts, there are bright stars every day.

06. Hopping stars

Do not try to use the app without thinking, but as a guide to learn to recognize the constellations. So that you learn to recognize certain structures, and learn to 'hop' from one to the other

