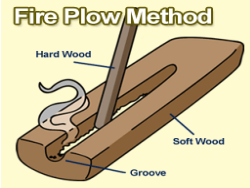




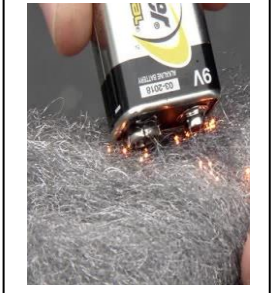


Prior learning

- Differentiate between tinder, kindling and fuel wood.
- Demonstrate how to set up a safety circle.
- Understand how to make a fire by a chemical reaction.

Key knowledge I will understand

- Understand different methods to make a fire.
- Demonstrate safe use of a Kelly kettle.
- Name the components needed to make a fire.

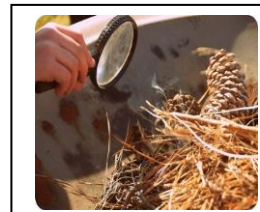
|   |  |   |
|---|--|---|
| <p><b>1. Fire by friction</b></p> <p>Using a fire plough method.</p>  | <p>This method relies on using only natural resources. By pushing the stick along the groove of the board, getting a good technique dust which is sourced of will create enough friction to make a spark.</p>  |  <p>Fire Plow Method</p> <p>Hard Wood</p> <p>Soft Wood</p> <p>Groove</p>                 |
| <p><b>2. Fire by a chemical reaction</b></p>  <p>Using a flint and steel method</p> | <p>Once you have your tinder ready, hold your flint and steel over the top at an angle and strike down continuously. Once you see sparks your tinder will ignite. When you have small flames continue to add increasingly larger pieces of fuel.</p>   |   |
| <p><b>Fire by a chemical reaction</b></p> <p>Using matches or a lighter.</p>  | <p><b>Matches</b> are a very effective way of lighting your fire, and they are easy and simple especially if you're short on time. However, they're not always reliable. Once you've set your fire pit, ensure all your pieces of kindling and fuel are close by, then prepare your tinder and strike your match. You may need to do this a few times depending on how the tinder ignites.</p> <p>A <b>lighter</b> is ideal in all conditions, as it gives a more direct open flame. Once your fire pit is prepared, this is the most convenient method.</p> |   |
| <p><b>3. Fire by electrical energy</b></p>  | <p>Electrical energy can be used to create a spark. Using wire wool and a live battery is an easy way to light an electrical fire. Using a 9v square battery, rub the wire wool against both elements on one end. The wire wool short circuits the battery and creates a spark.</p>  |    |

#### 4. Fire by solar

You can use a magnifying glass.

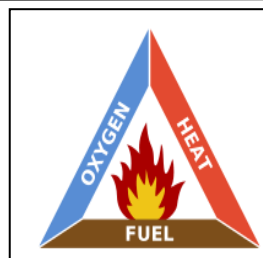


A magnifying glass is a convex lens that can focus the light onto a single point. If you position your magnifying glass so the rays from the sun aim through it onto your tinder, the heat will begin to light your dry material causing it to ignite.



**Discuss the three parts of the combustion triangle – heat, fuel and oxygen.**

The basic fire triangle consists of three necessities. All three are needed to keep a fire going. To stop combustion of a fire, one of the three elements of the fire triangle has to be removed.



#### How I will investigate – making a hot chocolate

**There are risks involved when using hot equipment and boiling water therefore leader must always demonstrate safe practice and safety precautions will be in place.**



- Ensure you are on a level, non-flammable surface.
- Create your safety circle, ensuring that there is plenty of distance between working groups.
- Make your fire in the base compartment using your tinder, kindling and small pieces of fuel.
- Prepare your kettle by pouring water into the top section, being careful not to fill too close to the top as this will spill out when it hits boiling point.
- Put the green cork in, making sure the arrow is facing downwards. Do not place the cork in the Kelly Kettle when being heated.
- Once your fire is burning and the kettle is prepared, lift the kettle on to the base, wearing protective heat-proof gloves if needed.
- Make sure the base is enclosed – the air hole should be on the opposite side to the spout.
- Feed the fuel by dropping sticks through the chimney hole in the middle. Keep your arms away from the spout to avoid getting splashed with boiling water or steam.
- Once the kettle hits boiling point it will make a whistling sound and you may see the water starting to spill out from near the cork.
- Wearing the heat-proof gloves, take the handle and carefully remove the top part of the Kelly Kettle, placing it down on a level surface within your safety area.
- Kelly Kettles are heavy, especially when full of water. They should only be removed with adult supervision.
- Once you have poured your water as required, place your kettle in a safe designated place.
- You can use the flames - if they are still burning in the base - for cooking marshmallows.
- Once you have finished with all equipment and it has cooled, each section must be disposed of with care.
- Remaining water can be used for cleaning. Do not use if water is boiling.
- The embers in the base must be cooled, which ensures that the fire is completely out before disposal. Scatter embers within the bushes around the area and leave the site tidy.