

Last session we looked at Foraging, Water Collection & Open Fire Cooking. This week we're going to find out about:

Navigation

Location: Any Outside Area - Park or Playing Field, Garden or Plantation, Glen or Beach

What you need:

- Adult Supervision - ask them to join in too!
- Print the booklet OR use some scrap paper to draw and copy things.
- Pin, Leaf, Bowl of Water, Magnet, Compass (optional)
- Straight Stick & 2 Stones
- Paper, Pencil & Colouring Pens or Pencil
- Download an Orienteering Map from www.orienteering.im/maps/

Aim:

- Know what navigation is
- Be able to identify and use some different methods of navigation
- Be able to use a map

Activity

- Methods of Navigation
- Stick Directions
- Make a Leaf Compass
- Make your own Map
- Orienteering

What is Navigation?

Finding the way from place to place is called navigation. Navigators are people who do the work of finding the way. They need to know where they are. They also need to know which way to go.

From ancient times to the present, people have sought to explore the world around them. Some just wanted to understand their own land, others wanted to discover new lands, and still others sought ways to make money from the resources that could be found in other places. Some explorers sought adventure or a new life on their own, while others travelled in the name of a king or a country.



Famous explorers and navigators:

- Alexander the Great (300s BC) - Asia
- Leif Eriksson (about 1000) - Americas
- Marco Polo (1271-95) - Asia
- Christopher Columbus (1492-1504) - Americas
- Francis Drake (1577-80) - Americas
- Walter Raleigh (1580s-90s) - Americas
- Abel Tasman (1642-44) - Australia
- James Cook (1768-79) - Australia
- David Livingstone (1841-73) - Central & Southern Africa
- Roald Amundsen (1890s-1920s) - Polar Regions
- Ernest Henry Shackleton (1901-16) - Polar Regions



Choose one of the above explorers and see what you can find out about the methods of navigation they might have used.

What can we use to navigate?

Early people learned how to travel large distances using the natural world.

People would watch the stars, the sun, and the moon.

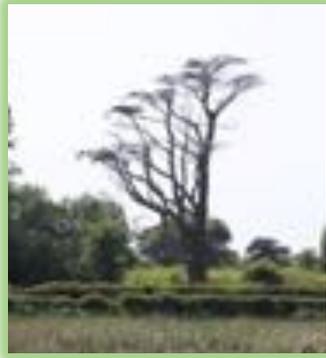
In the Northern Hemisphere, the North Star (Polaris) shines over the North Pole and its position in the sky does not change. In the Southern Hemisphere the Southern Cross (Crux) points south. From either of these you can figure out which way is north and south, east and west.



The Sun and the Moon both rise in the east and set in the west. On a sunny day you can use the movement of the Sun across the sky to find north. Have a go yourself:

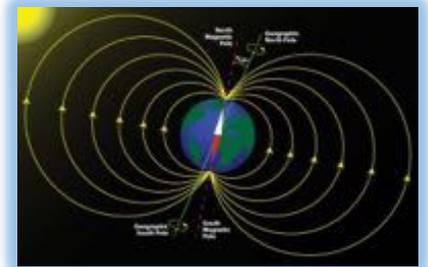


Even on a day when you can't see the sun, you can use it to help you find the points of a compass. The sun influences the way things grow, so that in the Northern Hemisphere it will be sunnier on the south side and shadier on the north side. This is helpful when you look at trees or drystone walls. Moss grows best in moist places and it is usually damper and darker in the



north side of trees, where there is less sun. Also, for this reason, trees are very rarely symmetrical. They will usually have larger, darker leaves on the shady north side, and more growth on the sunnier south side. Remember that in the Southern Hemisphere, this will all be flipped around – the north side will be brighter and the south side is darker.

Compass It was discovered that the Earth had two poles (North and South) and that these poles had different magnetic charges (positive and negative). Resting a strip of magnetic iron on the point of a pin, it was found that the strip would spin until it matched the magnetic field of Earth. From this a direction could be taken and paths could be followed. The compass was first invented in China. Shortly after, and completely independent of the Chinese invention, a compass was invented in France in 12th century. It is now believed that the Vikings also invented a compass, following the uncovering of the remains of a supposed compass in an 11th century Viking settlement in Greenland.



Vikings are an example of explorers who have utilised many methods above to travel far and wide. They knew the North Star does not change location and points to the north. They would then know the latitude (distance from the equator), by measuring the angle between Polaris and the horizon. They also used animals, especially birds, to know if land was nearby. They knew that specific kinds of cloud form near land, and that waves are different near land than at high seas.

Using these methods, The Vikings travelled through Russia, the Mediterranean Sea, southern Europe, northern Africa and south-western Asia. Some Vikings sailed across the Atlantic Ocean, via Iceland and Greenland, and may have explored places in North America.

Have a go at making your own compass. Here is how:

You will need:



- Bowl of water
- Leaf
- Magnet
- Pin
- Compass (optional)

Magnetise the pin, by stroking the pin head or eyelet end on a magnet for a few minutes (roughly 50 strokes)

Place the pin on the leaf, floating on the water

Let it settle and the pin head should point to magnetic north

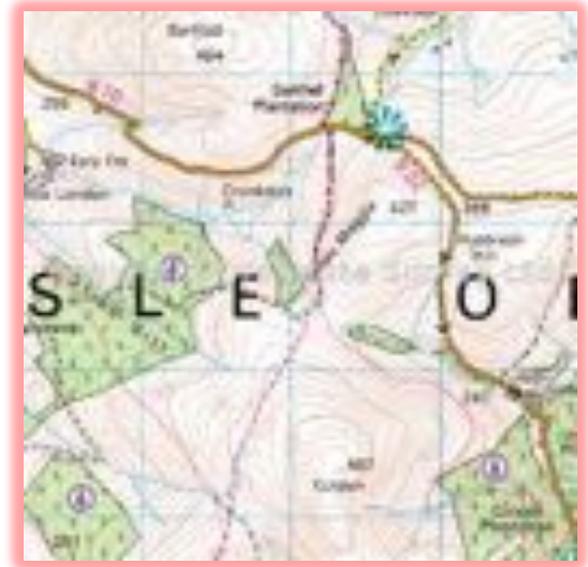
If you have one, you can use a compass to check the accuracy of the leaf compass

Follow this link for a more detailed demonstration of making a leaf compass:

<https://www.youtube.com/watch?v=0HqW5m9yzgM>



Maps & Charts can be used to assist with Navigation. A **map** is a drawing of all or part of the Earth's surface. Its basic purpose is to show where things are. Maps may show visible features, such as rivers and lakes, forests, buildings, and roads. They may also show things that cannot be seen, such as boundaries. Most maps are drawn on a flat surface. There are lots of different types of maps, one of the most common types in the British Isles are Ordnance Survey Maps. A **chart** is a specific type of map which focuses on nautical information, giving ocean depth, and coastal and navigational information.



Whatever the type of map, it needs to have a key so that the symbols on it can be interpreted, and it needs to show which way is north so that you can orientate it. Early Explorers put scary monsters on their nautical

charts to show areas of danger or places that were unknown. These fanciful monsters also played a part in making the maps look more interesting and appealing to people, so that they could be sold more widely.

Have a go at making your own simple map. Maybe you could hide some treasure and see if a friend or family member can follow the map. Remember to give your map a key, something like the one below, and include some measurements, like steps, to give an idea of distance.



Orienteering Courses

Another type of map is an Orienteering Map. This is like a treasure hunt, where you use a detailed map and clues to find markers in a set area. Orienteering IOM

(<https://www.orienteering.im/maps/>) has a number of courses around the Island. Maps are free to download and you can hone your navigation skills and even enter competitions.



Next week we'll be putting all your new skills together and -

Building a Camp