

Simple knots

Essentials

The ability to tie knots is a useful skill. Understanding the purpose of a particular type of knot and when it should be used is equally important. Using the wrong knot in an activity or situation can be dangerous.

Types of rope

- **Laid ropes** normally consist of three strands that run over each other from left to right. Traditionally they are made from natural fibres, but today are commonly made from synthetic materials.
- **Branded ropes** consist of a strong core of synthetic fibres, covered by a plaited or braided sheath. They are always made from synthetic materials.

● **Natural ropes** are made from materials such as hemp, sisal, manila and cotton. They are relatively cheap but have a low breaking strain. They may also have other unpredictable characteristics due to variations in the natural fibres.

● **Synthetic ropes** are relatively expensive but hard wearing. They are generally lighter, stronger, more water resistant and less prone to rot than natural rope, and are often used in extreme conditions.

● **Wire ropes** are also available, but these are rarely used in Scouting.

Parts of a rope

The main parts of a rope are called:

- **Working end** – the end of the rope you are using to tie a knot.
- **Standing end** – the end of the rope opposite to that being used to tie the knot.
- **Standing part** – any part between the two ends. It can be a part of the rope already used in the knot.
- **Loop** – a loop made by turning the rope back on itself and crossing the standing part.
- **Eight** – a loop made by turning the rope back on itself without crossing the standing part.

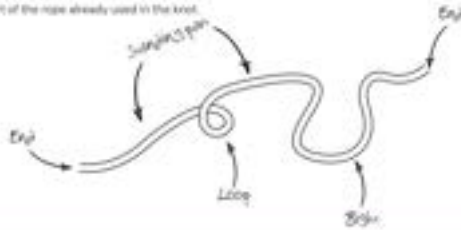


Figure of eight

This stopper knot is unlikely to jam or pull loose. When doubled it is also used to be a loop in a rope.



Round turn and two half-hitches

This knot has a long name but is actually a simple hitch. It is a composite knot, meaning it is formed from two simple knots, and is used to attach a rope to a post or an eyelet.



Clove hitch

This hitch is another way to fasten a rope to a post. It is not as secure as the round turn and two half-hitches, but is often used to begin other hitches and lashings.



TIMBER HITCH

This hitch is a temporary knot used to drag, lift or tow a log or pole. When used in this way, the timber hitch is usually made near the centre of the log or pole and a separate half hitch is slipped over the end to act as a guide when pulling.



Highwayman's hitch

This slip hitch holds fast when the standing end is pulled, but will come free when the working end is pulled. It is used to be a lead to a mooring ring or an animal to a halter post.



Common knots

Working knots, as opposed to decorative knots, are usually one of the following types:

- **Stopper knots**, which are tied in the end of a line.
- **Loops and nooses**, such as a bowline or figure of eight.
- **Bends**, used to tie one rope to another.
- **Hitches**, used to fasten a rope to another object. Hitches rely on the rope being pulled under tension to hold fast.

Overhand knot

This simple stopper knot is quick and easy to tie, and can be tied tightly up against an object or another knot.



Half hitch

This simple hitch can be used to fasten a rope to a ring or post. It forms the basis of many more complex knots.



Reef knot

This knot is used to tie together two working ends of the same material and use. It is often remembered by the phrase, 'left over right and under, then right over left and under'.



Sheet bend

This knot is used to tie together two ropes of different types or unequal thickness.



Sheepshank

This knot is used to shorten a rope and can be tied in the middle of a rope without needing the ends. It can also be used to bridge a damaged length of a rope, but make sure that the damaged part goes through both half-hitches (ie between the 'T'). The sheepshank should be kept under tension – if the rope goes slack it may come undone.



Bowline (pronounced 'bo-lin')

This vital knot is used to make a non-slip loop in the end of a rope. It is invaluable in rescue situations – learn it so that you can tie it with your eyes closed, or even with one hand. It is often remembered by the phrase, 'The rabbit comes out of its hole, round the tree and down the hole again'.



Good practice

- Look at the drawings and trace the various twists, crosses and bends with your eyes, from the standing part to the working end, to see how the knot is constructed.
- Keep the rope and knot flat and your hands open as you tie the knot. Start at a point about 30cm from the working end of your rope.
- If the knot involves two working ends, work them together from the standing parts to the working ends.
- Make the first bend, turn or crossover before moving on to the next stage. Check the shape of the knot at each stage.
- Tighten the knot correctly so it doesn't form the wrong shape.
- Tie each knot using the diagrams a few times and then try it from memory. When you can tie it correctly three times in a row you've probably got it, but continue to practise knots regularly.
- Many knots are made up of combinations of simple knots. Learning simple knots first will make tying complex knots much easier.

Safety guidelines

- Call rope when not in use so it does not present a trip hazard.
- Ensure that Scouts do not tie knots around their wrists or necks.
- Store rope correctly so it does not perish or rot, which can affect breaking strain. Check all ropes are in good condition before using them to take a load or take a strain.
- If using a knot to take a load or take a strain, ensure that it has been tied correctly. An incorrectly tied knot may slip or come loose and cause injury or accidents.

Lashing

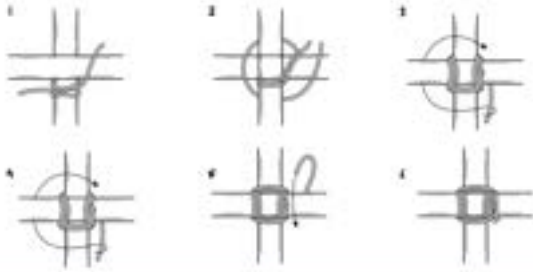
Essentials

Lashings are used to join together poles or spars to enable the construction of objects and structures. In Scouting this activity is called pioneering. Common pioneering projects include gateways, bridges and platforms, or smaller camp items such as washstands, chairs, benches, and tables. See the fact-sheet on pioneering for more information.

Simple lashings

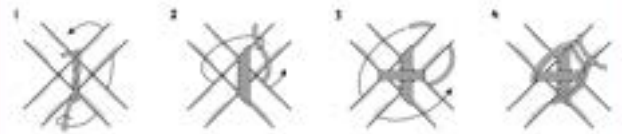
Square lashing

Square lashing is the most widely used lashing for securing one spar to another when they cross at an angle. It is particularly used to stop spars sliding over each other.



Diagonal lashing

A diagonal lashing is used to pull two spars together and prevent them from springing apart, for example, at the cross-brace of a framework.



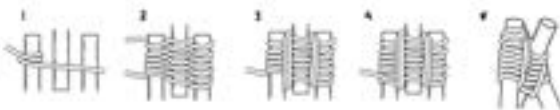
Sheer lashing

There are two types of sheer lashing. The first is used to join together two spars to make a longer length, for example, when making a flagpole. The second type is used to create sheer legs, where the spars are lashed together at one end and opened to form an inverted V-shaped support.



Figure of eight lashing

The figure of eight lashing is also known as the round or tripod lashing. It is used to bring together three spars to form a tripod or gan.



Good practice

- Know your knots before attempting to learn lashings, particularly the clove hitch and the timber hitch, which are essential elements of a lashing. The clove hitch is used to secure a rope to a spar, as when beginning a lashing. It is far more secure than a single half hitch. The timber hitch is used to secure the end of a rope to a spar.
- The key to making secure square and diagonal lashings is to keep them tight and tily, particularly when snapping. This is when the lashing is passed round one spar and then completely round between the spars, over and under at least three or four times, to draw the whole joint firmly together. It requires tight work, and is best done in pairs, with one Scout pulling hard on the end of the lashing while their partner ensures the turns at each corner are as tight as possible. However, ensure that lashings used to make sheer legs and tripods have sufficient play to permit the spars to open out to form a solid base.
- When finishing a lashing with a hitch, make sure it cannot slip round the spar and loosen the lashing.
- Spars and pioneering poles will last much longer if they are stripped of bark before use. Try to isolate spruce, larch or ash, and avoid brittle woods like willow and poplar.
- Use good quality rope such as 8 or 12mm diameter steel for lashings that will take a strain, though thinner steel can be used for small pioneering projects.
- If learning how to tie lashings for the first time, use cardboard tubes rather than wooden spars. Tubes are smooth and of a constant diameter, making them easy to handle.
- Blocks and hooks will be needed for more advanced pioneering projects such as aerial railways, hoists and swings.

SAFETY GUIDELINES

- Check that Scouts can tie lashings confidently and securely before undertaking pioneering projects.
- Run small scale pioneering projects before progressing to larger scale outdoor projects.
- Always carry out a risk assessment before undertaking any pioneering activities.
- Ensure that pioneering structures are safe and properly anchored before allowing anyone to use them.

Find out more

The Outdoor Adventure Manual (Haynes, 2013) and The Complete Guide to Scouting Skills (Doubleday, 2013) are useful introductions to lashings. Many other publications on pioneering and lashings are available, which introduce other types of lashings and offer extra project ideas. Former Gilwell Park Camp Chief John Thurman wrote a number of classic pioneering guides including Pioneering Projects, Fun with Ropes and Spars, and Progressive Pioneering.

Discovery Channel, sponsors of the Scout Pioneer Activity Badge, has produced an activity pack for Scouts with accompanying notes for leaders. Find out more at scouts.org.uk/discovery

Basic navigation

Essentials

This sheet covers the basic techniques and information needed to navigate using a map and a compass.

Maps

A map is a two-dimensional representation of an area of land, as if you were looking at it from above. There are many different types, but those used for navigation are drawn to scale. Think of the scale like zooming in or out on a computer screen. The scale will be printed on the map and is expressed as a ratio, such as 1:25,000 (Ordnance Survey Explorer, Outdoor Leisure and Pathfinder series) or 1:50,000 (Ordnance Survey Landranger series). This means that a distance of 1cm measured on the map is equivalent to 250m or 500m on the ground – the higher the scale number, the more 'zoomed out' you are from the

map. In practice this means that on a higher scaled map you can see a larger area than on a lower scaled map, but in less detail.

Ordnance Survey (OS) maps show all major land features such as footpaths, hills, valleys, water courses and railway lines. OS maps also contain other useful information, including contours and grids.

Contours

Contours are used to represent the shape of the land. They are shown on OS maps in a light brown colour. They connect points at the same height (above sea level) and are spaced at 10m intervals. The closer together the contour lines are, the steeper the slope.



Valley

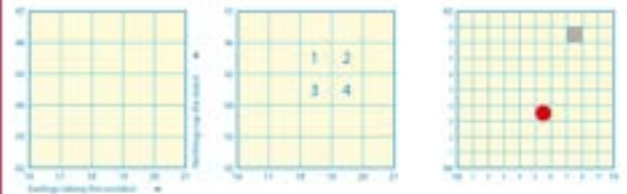
Also known as a dale, canyon or gorge, a valley is a depression in the landscape that slopes downwards before rising back up again. A valley is usually 'V'-shaped if formed by a river, or 'U'-shaped if formed by a glacier during an ice age.

Grid References

OS maps use a grid marked with two-letter codes to divide the UK into 100km squares. Each 100km square is divided into smaller squares using vertical and horizontal blue lines spaced every 1km. These are called grid lines and make a series of grid squares. The horizontal lines show you how far north you are and are called Northing's, while the vertical lines show you how far East you are and are called Eastings. All of the grid lines are given a reference number, enabling a specific location on the map to be identified through a grid reference.

To be even more precise, a six-figure grid reference is used to identify a 100m square area within a 1km grid square. This can be useful if, for example, there are two phone boxes in the same grid square and you need to identify one in particular. To find a six-figure grid reference, imagine you are adding a decimal place to the end of your four-figure grid reference – so if the telephone box is halfway between grid lines 18 and 19, you would call it 18.5. However, the decimal point is not actually used, so the reference is given as 185. A six-figure grid reference of 185, 443 would be 5/2 of the way between the Eastings of 18 and 23, and 3/4 of the way between the Northings of 44 and 45.

A grid reference is composed of the two-digit reference number of the Easting followed by the two-digit reference number of the Northing. Grid references are always given in this format to avoid confusion – the number along the bottom of the map (Eastings) first, then the number up the side of the map (Northings). Remember this as 'Go along the corridor before you go up the stairs'. This type of grid reference is known as a four-figure grid reference.



Hill

A hill is an elevated land mass that rises above the surrounding area. It is generally agreed that in the UK any hill higher than 600m (1,968.5) is classified as a mountain.



Ridge

A ridge is a series of connected mountains that forms a crest, usually of high altitude. Once a summit has been achieved, it is sometimes possible to walk along a ridge to reach the summit of an adjoining mountain.



Map symbols

Maps use symbols to tell the viewer what something is and what it does. Usually this will be a physical feature, such as a castle, but sometimes it will be something less tangible, such as a nature reserve. OS maps use a standard set of symbols across each map scale. The key or legend on the side of the map explains what each symbol means.

It is important to realise that map symbols often don't show the shape (or form) of the thing they are representing. Instead they show its function. Youth hostels aren't actually giant pyramids. This makes the map easier to understand – it would actually be much harder to find the closest telephone box if the map simply showed them as tiny black squares.

Examples of symbols found on Ordnance Survey maps

Complete Ordnance Survey map symbol sheet can be downloaded at ordnancesurvey.co.uk

	City or town		Footpath
	Suburban residential buildings		Drainage
	In or out of water		Foot open to all traffic
	Place of worship		Agricultural tracks <small>(not to be used by recreational vehicles)</small>
	Peak level		OG
	Subterranean water (spring or river level)		FB
	Waypoint, stop, waiting		Man
	Boundary, watercourse, gap		PO
	Lighthouse, abandoned lighthouse, lantern		Pol Sta
	Slope		VILLA
	Site of deposition		Castle
	Site of burial		Trench
	Coniferous trees		Zastava, heath or rough ground
	Deciduous trees		Bank, meek or water
	Coppice		Viewpoint
	Orchard		Cross or tower
			UK coast
			UK river, stream or lake

Good practice

- Map symbols may vary, depending on what type of map is being used. Check the key to make sure that a symbol means what you think it does.
- When navigating with a map, you should 'set the map' by aligning it with the landscape. Stand in a fixed spot next to a feature or landmark and find this location on the map. Then rotate the map so that other features and landmarks line up with those you can see on the ground.
- Ensure that you have the right type of map for the situation. A map that gives too much or too little detail is of limited use.
- When using a map on an expedition or hike, carry it in a waterproof map case.
- Always remember to account for changes in ground level, as indicated by contours. A general rule, known as Nansen's rule, is to allow 1 hour for every 2 miles (3.2km) of open ground covered, plus 1 hour for every 2000 feet (600 metres) of ascent. It is also common to add on 20 minutes for each 600m of steep descent, and subtract 20 minutes for 600m of gentle descent.

Compasses

A compass is an instrument with a magnetised needle that points to magnetic north. Compasses are used on land, at sea and in the air to help people specify direction.

Apart from determining the direction of north, a compass can also be used to work out a compass bearing. Bearings are expressed as an angle, measured in the 360 degrees of a circle, in which 0° is north, east is 90°, south is 180° and west is 270°.

Magnetic declination – grid north and magnetic north

It is important to understand that grid north on your map and magnetic north on your compass are not quite the same thing. Grid north is fixed, but magnetic north changes slowly through time. The difference between the two is called Grid Magnetic Angle but is often incorrectly referred to as Magnetic Variation or Declination, which actually refers to the difference between magnetic north and true North.

This means that a bearing taken from a map should be corrected before it is used for navigation. All OS maps show what the difference between grid north and magnetic north was at the time the map was printed, and also how much that angle will change for each subsequent year. In practice this means adding on or subtracting a little to a bearing. How much you add or subtract varies, depending on where you are and what year it is, so don't assume it will always be the same. All the information you need to calculate the correction is supplied on the map key.

More information about magnetic variation can be found at ordnancesurvey.co.uk/learn/technical/support/knowledgebase/grid-north-magnetic-north-and-true-north.html

Types of compass

Modern compasses come in different shapes and sizes.

Air-damped compass

The simplest and cheapest form of compass. It does little more than indicate the approximate direction of magnetic north. It takes a long time to stabilise and the slightest movement makes the needle move. This compass should never be used for any sort of hike or expedition.



Single map-setting compass

A liquid-filled compass that marks magnetic north only. It can be clipped to the side of a map, and is useful for positioning a map until whatever is in front of you is really in front of you on the map. This can only be approximate as there is no allowance for magnetic variation (the difference between magnetic north and grid north – see Magnetic declination for a full explanation of these terms).



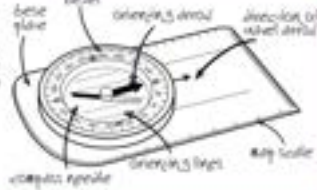
Prismatic compass

A more expensive compass with a prism, which enables a compass bearing to be taken while sighting your objective. It can be more accurate than other compasses but it is harder to use and therefore should only be used once the basic principles of map and compass work have been mastered.



Silva-type compass

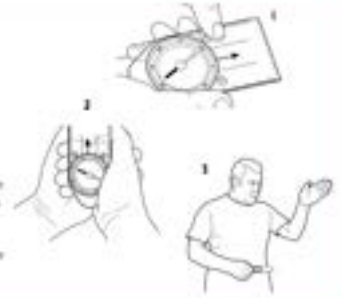
This compass consists of a magnetised needle suspended in an alcohol-filled housing. This housing can be turned and is called a bezel. Around the outside of the bezel are the 360-degree markings of a circle. The compass housing has etched orienting lines and an orienting arrow, while the base plate (on which the housing is mounted) is marked with the direction of travel arrow and map scales. This compass enables the user to take bearings, an accurate method of determining direction, and it is therefore the compass of choice for hiking and expeditions, or when making a route card.



Walking on a bearing using a compass

It is easy to walk on a bearing with a Silva type compass. Imagine you have been asked to follow a bearing of 60°.

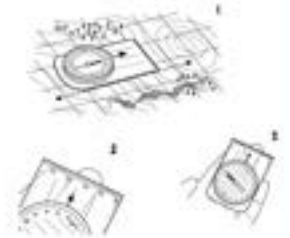
1. Holding the compass flat and level in your hand, turn the bezel until the bearing (60°) lines up with the direction of travel arrow. This has set your direction of travel to 60°.
2. Now turn the compass until the needle lines up with the orienting arrow (or north) on the needle matches north on the compass.
3. You can now follow the direction of travel arrow. Remember to check your bearing and your objective at regular intervals.



Using a map and compass to take a bearing

To find a bearing on a map a similar process is used.

1. Place the compass on your map so that one long edge of the baseplate follows a straight line between the starting point and your objective. Turn the bezel until the orienting lines are parallel to the blue printed Eastings on the map.
2. Take the compass off the map and read off the number that is now at the beginning of your direction of travel arrow. Add or subtract the local magnetic variation. This is your bearing.
3. Turn the whole compass so that the needle rests over the orienting arrow, with the red part pointing north. Hold the compass in front of you, pick out a landmark along your line of travel and walk towards it.



Good practice

- Storing compasses near magnetic items (including other compasses) can cause them to give a false reading of north. Similarly, an bubbles trapped in the compass housing can prevent the needle turning properly and prevent an accurate reading.
- When following a bearing it is best to pick out a target, such as a tree, to aim for instead of staring at the compass. This will prevent you veering off course and also ensure you stay vigilant for hazards.
- Check bearings before following them, especially in low visibility. Additionally scan the map for possible hazards so you can ensure that a slight error with your bearing will not lead you into danger.

Safety guidelines

- Practice map reading and compass use so that you can calculate distances quickly and accurately. Failing to do this before going out on a hike can have serious consequences.
- Never set out walking in unfamiliar territory without telling someone how exactly where you intend to go.
- Do not undertake a hike or expedition without the proper (or sufficient) knowledge. You will need to know how to set a map, use a map and compass, and take and follow bearings before setting out.

Find out more

- The Scouting factheets on GPS navigation and Hiking will help you learn more about navigation.
- The Haynes Outdoor Adventure Manual and The Complete Guide to Scouting Skills are also useful references.
- The handbooks of the British Mountaineering Council are the definitive reference source for information about navigation.
- Ordnance Survey sponsors the Cub and Scout Navigator Activity Badges. Download the activity packs to help Cubs and Scouts improve their map reading skills to work towards badge requirements.

Making sense of maps: Building a 3D landscape

Curriculum links: Key Stage 2 Geography – Geographical Skills and Fieldwork

Learning Outcomes:

In this activity, pupils make links between the world around them and its topographic representation. They investigate mapping, using geographical skills to explore the differences between the physical form of landscape features and their representation in map symbols. This knowledge forms the basis of further work to build pupils' understanding of the United Kingdom and wider world.

By the end of this activity pupils will

- Have used maps to describe relevant geographical features
- Have developed their knowledge of maps using symbols, keys and grid references
- Have worked collaboratively in small groups to build understanding and reinforce learning.

What you'll need:

- | | |
|--|---|
| <ul style="list-style-type: none"> For the board <ul style="list-style-type: none"> large square pieces of cardboard or hardboard coloured paints PVA glue | <ul style="list-style-type: none"> For map grid lines <ul style="list-style-type: none"> 1m long wooden batten thin blue string blue paint marker pen rule |
| <ul style="list-style-type: none"> For map symbols <ul style="list-style-type: none"> small pieces of polystyrene, cardboard or balsa wood that can be made into shapes paints and brushes | <ul style="list-style-type: none"> For map grid lines <ul style="list-style-type: none"> green modelling clay red string cardboard cocktail sticks |

Activity:

INTRODUCE...

What? Types of maps and their uses.

How? Ask pupils to come up with as many different types of maps as they can. Use the suggestions to create a mind map, which might include atlases, weather maps, theme park maps, fire escape plans on doors and so on. Introduce Ordnance Survey (OS) maps to the class.

DEMONSTRATE...

What? What? That map symbols make it easier to understand the form or function of a landscape feature compared to an aerial view.

How? Prior to the lesson, make a 3D landscape model. Show the class a prominent feature, such as a castle. Wouldn't it be difficult to work out what a castle was if you could only look down at it from above? Now introduce the concept of map symbols as a way of understanding the function of something rather than simply showing its physical appearance.

Explain...

- What?** How a map key can be used to identify different symbols in order to help us understand maps.
- How?** Use sets of map symbol flashcards and A4 OS map keys (which can be downloaded from the OS website). Using the cattle example, ask the class to find the feature on their OS map keys. Can they identify the matching cattle flashcard? Practise this skill by asking pupils to find the correct flashcards for four or five of the features shown on your 3D landscape.

Apply...

- What?** This activity teaches pupils common OS map symbols and reinforces the idea that the symbol shows the function of the feature and not its physical form. To extend this activity, you could also introduce the concepts of contour lines and land height, and even go onto teach four- and six-figure grid references using the same model.
- How?** Working in small groups, pupils will build their own 3D landscape models and map them. The boards should be pre-made but pupils can make their own natural and man-made landscape features from cardboard or polystyrene. As they build their landscape, they should also create a map by drawing the appropriate symbols on a square piece of paper, putting each symbol in the right location. It may be helpful to give the groups a pre-made landscape feature to start with, which is a good way to check that pupils understand the task. Then assign each group a number of features to include on their landscapes and maps.

A good extension activity that makes further use of the landscape models is to make hills and add contour lines with wool or string. You can also use the models to teach grid references, particularly if the models have been designed to fit together to form a giant landscape (see activity notes). Similarly, you could use the groups' maps to explore environmental issues. Ask questions such as 'where should we place a wind farm?' or 'where should we build a new housing estate?' Then get groups to make town planning decisions, taking different human and environmental factors into consideration.

Summarise...

- What?** Conclude this activity by checking that the class can now identify different map symbols.
- How?** Show the class a model landscape feature and ask them to draw the correct map symbol. If you have the resources, use a web-cam to show the symbol on a large screen display and show the boards to draw the symbols. Alternatively, ask the groups to study each others' 3D landscapes and maps. Then create a map key that can be used to identify all the features shown.

Activity notes

Building a 3D landscape gets pupils thinking about the different elements and functions of a map. It allows them to build up their knowledge piece by piece as they add detail to their own 3D landscapes and maps.

Pupils start with a blank landscape board and map sheet. As they add detail to their landscape they also add the relevant detail to their map. The complexity increases as they progress. Introduce contour lines to explain landscape height, grid references to show how to pinpoint locations and route-measuring to teach map scales or navigation.



1. Planning the activity

This activity requires some preparation, but pupils will have fun making most of the landscape features themselves. The key resources to prepare are the basic map boards. Use large sheets of cardboard or hardboard cut into metric squares. Paint them green and add some detail, such as water features and main roads. This helps pupils to visualise the landscape before they add their own features. You may want to design the boards so that they can all be fitted together to form a giant landscape.

You also need to make four or five model features and place these on a 3D landscape of your own to demonstrate the concept. Make a castle as well as common features such as houses. The rest of the models will be made by the pupils as they build their own 3D landscapes. Cardboard, polystyrene and balsa wood are good materials to use - and don't forget paint!



2. Map symbols

Map symbols show the function of a feature, not necessarily its physical form. This enables quick and easy identification. Of course, pigs don't actually look like giant tanks of beer, and nature reserves don't usually have giant birds flying around.

The model features should look like the actual landscape feature, but make sure they are represented on the maps using the correct symbol from an OS key. Check pupils' understanding by asking them to match map symbol flashcards to the corresponding feature on your 3D landscape. This highlights the difference between form and function, requires them to use the OS map key and makes the link between landscape and map.



3. That's a relief - contour lines

Add hills to 3D landscapes with modelling clay. Then ask pupils to look down on them from above. Isn't it difficult to gauge the height of the hill? You can then introduce contour lines using red string. These form a series of circles that clearly show the height of the land, even when viewed from directly above.

Pupils can place contour lines themselves by adding a length of string at every 20m intervals and using this as a guide.



4. Location, location, location - grid references

If all your boards fit together to form a giant landscape, then you should be able to link your maps together too. Add grid lines to the boards using blue feltens. Number these along the sides of the boards. This will enable you to give four-figure grid references. To teach six-figure grid references, mark further subdivisions in tenths on one part of your feltens. You can even lay thin string within a larger grid square to illustrate this concept.

Using Axe and saws

Essentials

Axes and saws are essential tools for preparing firewood around camp. It is vital to know how to take care of these tools and how to use them safely and correctly.

A hand axe or hatchet is a one-handed tool for cutting and trimming small branches and twigs for firewood. It should not be used to chop live wood. All hand axes should have a mask to cover the blade, which fits securely around the head.

A felling axe is a two-handed tool for felling timber. It is larger than the hand axe, and has a very sharp single or double bit to cut across the grain of wood.

A bow saw is used to cut timber that is too large for a hand axe, and is often safer and easier to use than a felling axe. One variation of the bow saw is the buckskin. Folding buckskins are popular camp tools.

A folding saw is a portable saw with a folding locking blade. Like the hand axe, it is ideal for cutting and trimming small branches and twigs for firewood. Folding saws are a popular camping and bushcraft tool.



Good practice

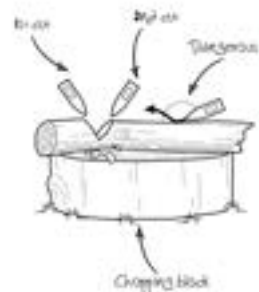
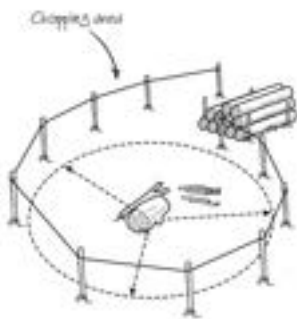
- Fit masks or sheaths to axe heads and saw blades, which should fit securely. Do not plant the head in the ground. An axe can be masked temporarily in the chopping block but make sure that the blade is securely wedged in the grain of the wood and that the mask does not pose a trip hazard. Saws are usually supplied with plastic clip-on masks that fit over the blade. Alternatively, make a mask from a split length of hosepipe.
- Keep axes and saws dry, and never leave them out overnight. Keep them in a stores tent in a locked box.
- Maintain axes by sharpening them regularly, ideally after use and before putting them in storage. Saw blades are relatively cheap and can generally be replaced rather than sharpened. Treat axe heads and saw blades with gun oil or camellia oil to prevent rusting. Protect wooden handles by rubbing them with boiled linseed oil.

Safety guidelines

- Axes and large saws can be difficult and dangerous to handle if they are too big for you to control effectively. Use a tool of a size and weight that is suited to the job and your level of ability.
- Wear appropriate clothing and footwear, including bracers, gams and any knee pads that would be worn. Boots should be worn rather than trainers. Tie long hair back.
- Inspect tools before use. Check for damage and ensure that the parts are aligned and held together securely. Never use a blunt axe or saw, which is likely to slip or bounce on impact.
- Do not use axes or saws after dark or when tired.
- Crouch or kneel on one knee when using small axes and saws to avoid risk of injury.
- Always use a chopping block when splitting firewood. Chop directly over the block, positioning the wood on the far side of the block.
- Carry axes cradled upside down in your hand with your arm by your side. Make sure the axe bit is facing forward, keeping fingers out of the way.
- Pass tools to others carefully and safely; axes should be passed head first. Support the head with your free hand.

Using a hand axe

- Mark out a clear chopping area, situated close to the fire area but separated from it by a graded woodpile. The chopping area must be free of obstructions and trip hazards, and at least three axe lengths in radius (ie an outstretched arm and the length of three axes). Place the chopping block in the centre. Axes should only be used in this area, which should be clearly marked and enforced as a 'no go' zone for anyone who is not properly trained or clothed.
- Crouch or kneel on one knee behind the chopping block.
- Hold the wood to be chopped in one hand, and firmly grip the haft of the axe with the other.
- Aim carefully and always try to hit the wood in the same place. When practising, it may help to make a chalk mark on the log.
- Swing the axe in a chopping motion by bending your arm at the elbow, aiming to create a small 'V' with alternate angled cuts at 45 degrees. Do not drive straight down onto the wood, as this will cause the axe head to bounce.
- As the 'V' widens, you will create chippings, and the wood will soon split. Clear the chippings away regularly and use them for kindling.



Sharpening an axe

Use a round carborundum stone for sharpening. Make sure the axe head is free of dirt or resin, and move the stone in small circles towards or away from the bit, applying light pressure and keeping fingers clear. Change sides and sharpening angles often until the edge has a smooth and even surface. If the edge becomes too thin and fragile you can work against the bit, to give a wider cutting angle and a stronger edge.

Using a bow saw

- Ensure that your work piece is held firmly, ideally in a sawhorse, and wear heavy duty gloves. Position the wood so that its weight naturally opens the cut, rather than closing it around the blade. If you need to hold the wood, the safest way is to pass your free arm through the saw, grasping the wood firmly until the cut is deep enough for the saw not to bounce out. This way, if the saw jumps out, only the blunt side of the blade can make contact with the hand or arm.
- Saw by slowly pulling the blade towards you until it bites into the wood. Then push and pull steadily using the entire length of the blade.



Find out more

Good sources of information include the books *The Outdoor Adventure Manual* (Haynes, 2018), *The Complete Guide to Scouting Skills* (Doubleday, 2020) and *Bushcraft: Outdoor Skills and Wilderness Survival* by Moss Kucharski (Lone Pine Publishing, 1998).

Fire Lighting

Essentials

Fire lighting is a fundamental skill in Scouting. It is vital for cooking, keeping warm and as a focal point for camp activities. As such, being able to prepare, light and maintain different sorts of fires is very important. It is equally important to know how to extinguish a fire and to clear a fireplace correctly.

These elements are needed to make a fire: oxygen, heat and fuel. This is known as a fire triangle. Typically, wind is the fuel for a fire, oxygen is provided by the air and the heat comes from a match or spark. If any of these elements are removed, the fire will go out.

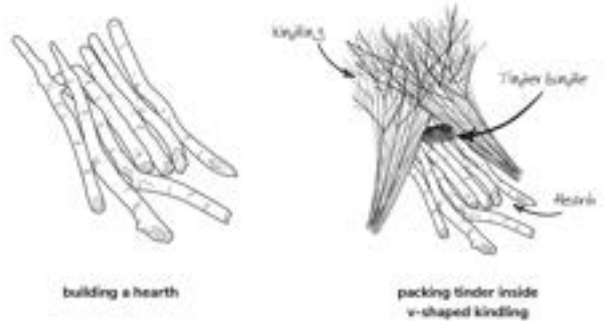
GOOD PRACTICE

- Consider whether it is appropriate to light a fire, if conditions are particularly hot and dry, or if you are camping in an area with underground root systems or peaty soil, then the risks may outweigh the benefits.

- Preparation is vital. Collect plenty of dead, dry wood. This will typically be found off the ground, hung up in branches, but if it has rained recently, look under bushes and trees.
- Feed the fire, don't smother it, and pay particular attention in the early stages.
- Replenish fuel frequently as needed. Add fuel in handfuls rather than one stick at a time.
- If you struggle to light your fire or natural tinder such as birch bark to take the initial spark or flame.
- Cook over embers, not over flames, as it is these that produce sustained heat.
- Always return fire sites to their original state, leaving no trace that you have been there.

Building a small-stick fire

- Collect kindling and fuel sorted by thickness. You'll need a bunch of matchstick-thick twigs for kindling and larger sticks of around thumb thickness for fuel.
- Choose a fire site, avoiding tree roots and overhanging branches. Clear the ground to expose bare earth.
- Create a hearth by placing dead dry sticks side by side.
- Kneel with your back to the prevailing wind, knees and feet together to eliminate draughts, and arrange the kindling on top of your hearth in a flat or upright V-shape. Remember to leave a gap to insert your tinder.
- Pack a bundle of tinder inside the V-shape.
- Strike match, shielding flame, and take it to the tinder. Blow gently to provide oxygen if needed.
- Add wood as necessary, gradually increasing the size of your fuel as the fire is established.



Safety guidelines

- Stay calm when lighting fires, and no matter what happens, do not panic.
- Never use paraffin, petrol or multigrade oils to light or revive a fire.
- Choose the site of your fire with care, and never light a fire on peat, or in areas with underground root systems or low branches.
- Never leave a fire unattended.
- Never underestimate the potential reach of a fire or the strength of the wind.
- Ensure you can extinguish a fire quickly in case of emergency. Keep either a bucket of water, fire bucket or a jar of earth and a shovel close at hand.
- Carry firelighters and waterproof matches, a fire steel or a lighter to use in case of emergency.
- Keep long hair tied back when lighting fires.

You must always ensure that any fire you make is fully extinguished. Ensure all fuel is burned to ash, scatter smouldering wood and do not burn plastic rubbish or fat in the fire.

- Extinguishing a fire with water: let the fire die down. Spread out the ashes and douse with water being careful to avoid any steam that rises.
- Without water: let the fire die down. Spread out the ashes. Cover thoroughly with earth or soil. Do not use this method after dry weather on peaty soil or in areas with underground root systems.

To minimise the impact of a campfire on the surrounding environment, eg by emptying fire pits and refilling them with earth before replacing turf.

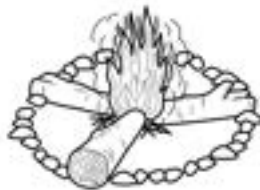
Find out more

There are many other types of fire. Further information can be found in the Nights Away resource, available from Scout Shop (product code: 001215) and in the books *A Complete Guide to Scouting Skills* (Doubleday, 2013) and *The Outdoor Adventure Manual* (Pearson, 2013).

Larger types of fire

Star fire

Place three logs in a star shape and light a small fire in the middle. As the logs burn, move them towards the centre. Place a circle of non-ferrous stones around the fire to prevent it travelling.



Trench fire

Dig a trench or pit parallel to the prevailing wind and place a screen of logs, bricks or stones along the sides. As the fire is built in the pit you are shielded from much of the heat, making this fire ideal for cooking on a hot day.

Altar Fire

Today, most altar fires are permanent free-standing structures, commonly used at sites that do not allow ground fires. It is possible to build one by laying large logs at right angles, or by lashing slaves to form tiers. Make a non-flammable top from a metal pan or logs placed side by side and covered with mud.



Wood burning guide

All wood burns better if it has been seasoned. In simple terms, the word 'seasoned' means 'dry' and the term 'green' means 'freshly cut from a living tree'. The general rule is the drier the wood, the better. However, if a fire is well built, most wood will burn unseasoned.

Excellent

- Ash** - the best firewood, providing both heat and flame. Logs will burn when green, while small branches make good kindling.
- Beech** - very good firewood if well seasoned, producing sustained heat and flame. It may give off a few sparks.
- Blackthorn** - this native hedgerow tree produces small logs but is one of the best woods, burning slowly with good heat and little smoke.
- Hawthorn** - another hedgerow tree that makes good firewood, burning hot and slow. Even smaller branches are worth using.
- Oak** - old, seasoned oak gives excellent heat and burns steadily.

Good

- Maple** - good quality firewood.
- Yuccarnum** - burns with a good flame and moderate heat. The thicker branches of this tree make good kindling.
- Cedar** - good firewood if well seasoned, giving little flame but plenty of sustained heat. This makes it a good option for a cooking fire. A cedar fire also has a pleasant smell. Thicker logs and branches will burn when green.
- Birch** - produces good heat and a bright flame, but burns quickly. Unseasoned birch will make an adequate fire if nothing else is available. Birch bark also makes excellent tinder, even if damp, as it contains natural oils.
- Hornbeam** - good firewood that produces a hot, slow-burning fire.
- Apple** - burns slowly and steadily with good heat but little flame, and doesn't tend to spark or spit. Like all fruit woods, it has a pleasant smell and adding a few pieces to a cooking fire gives an excellent flavour to smoked foods.
- Cherry** - burns slowly with good heat and a pleasant scent.
- Pear** - another fruit wood that provides good heat and gives off a pleasant scent.
- Plum** - good heat and a pleasant scent.
- Hazel** - a good all-rounder but burns quickly. Smaller pieces make good kindling.

Fair

- Pine** - burns with a bright flame and produces a pleasant scent, but often cracks and spits. Pine is a resinous wood, so it can be used to keep a fire burning in wet weather. It also makes good kindling.
- Larch** - burns with a brilliant flame.
- Rhododendron** - the thick old stems, being very tough, burn well.
- Plane** - reasonable firewood that burns well, but can throw sparks if very dry.
- Elm** - must be well seasoned due to its high moisture content. Burns slowly, giving constant heat, but can be smoky.
- Holly** - burns well when seasoned, but very quickly when green.
- Walnut** - not a common firewood, but burns with a distinctive scent.
- Willow** - must be well seasoned and burns quickly.
- Yew** - dense, slow-growing softwood that burns slowly with a fierce heat. The scent is pleasant, but it can spit and spark on a campfire.

Poor

- Douglas fir** - well seasoned Douglas fir will burn slowly and produce good heat, but in general it is unsuitable for a campfire as it gives little flame and has a tendency to produce sparks.
- Larch** - if well seasoned it gives good heat but is liable to crackle and spit excessively.
- Spruce** - burns quickly and produces many sparks.
- Horse chestnut** - good flame and heating power but considered poor firewood as it spits a lot.
- Sweet chestnut** - burns when seasoned but spits continuously and excessively, making it generally unsuitable for campfires.
- Alder** - burns quickly and produces little heat.
- Lime** - poor quality firewood.
- Poplar** - burns very slowly and produces little heat. It makes poor firewood.
- Elder** - burns quickly with plenty of smoke and produces little heat.

Tents

Essentials

The ability to identify different types of tents is a useful Scouting skill that will ensure you select the best tent for a camp or expedition. It is also important to know how to pitch (put up), strike (take down), maintain and store tents properly.

Large Scout camps often employ heavyweight tents which sleep up to six people, while smaller camps and expeditions, which often demand lightweight or portable equipment, typically use one-, two- or three-person tents.

Types of tents



Features

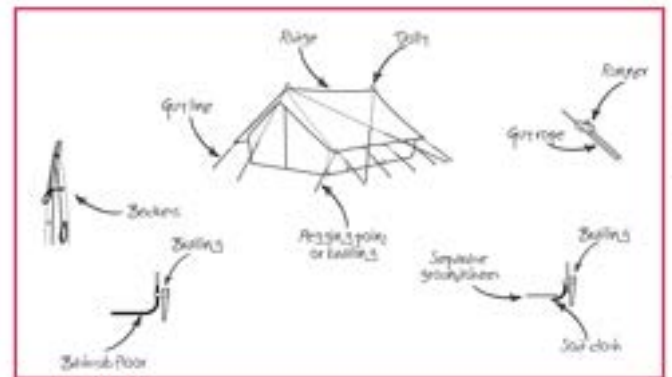
When selecting a tent, compare features to ensure that the type will suit all your needs. Think about the weight of the tent when packed, its dimensions, headroom and footprint (how much space it takes up on the ground). Key points to consider are:

- Construction** - tents can be of single wall or double wall construction. Single wall tents feature one layer of waterproof but breathable fabric, which makes them lighter and often easier to set up. They can suffer from condensation problems, so open all vents and flaps to air the tent in dry weather. Double wall tents use an inner canopy and a separate flysheet to provide protection from the elements.
- Groundsheets** - tents are available with sewn-in or separate groundsheets. Sewn-in groundsheets offer the best protection from draughts and insects but can suffer from condensation as they are less well ventilated. Separate groundsheets provide good ventilation inside the tent but do not offer the same level of protection.
- Material** - common tent fabrics include canvas, nylon, polyester or polycotton (a polyester-cotton blend). Canvas is a traditional and hard-wearing tent fabric, but is relatively heavy. Man-made fabrics are lighter and are often treated to help resist tears (eg 'kivar' nylon) or given a waterproof coating.
- Season rating** - modern tents are often given a season rating to describe their suitability for different conditions. Three-season tents are suitable for general camping in

spring, summer and autumn, while four-season tents are suitable for year-round use. Expedition tents are sometimes given a 'five-season' rating, meaning they are suitable for extreme weather conditions.

- Shape** - the shape of a tent dictates how much room there is inside. Different types of tent with similar footprints can vary greatly in shape. For example, high-roofed rectangular designs often make use of square profile poles to increase headroom, but this makes them more susceptible to wind. In addition, lightweight tents often feature a vestibule or sleeping porch. These increase usable space inside the tent to help keep the sleeping area dry. A vestibule is a great place to store boots and kit.
- Structure** - tents can be freestanding or non-freestanding. Freestanding tents will retain their shape before pegging out, which makes them easier to pitch and move around camp. Non-freestanding tents must be held under tension to retain their shape, so guy lines must be well placed. However, they're often lighter than freestanding tents.
- Poles** - traditional tents have wooden or steel poles, which are strong but heavy. They are now only common in older style tents. Lightweight tents make use of collapsible poles. These can be attached to the tent fabric by clips or sleeves. Sleeves create a very solid, windproof structure, but care should be taken during pitching to avoid snags or tears. Clips make pitching fast and easy, and promote airflow, but are less stable in windy weather.

Parts of a tent



Glossary

- Bathub floor** - describes a sewn-in groundsheet that curves a few inches up the sides of a tent to prevent leaks.
- Buckets** - used on older and traditional style tents to close-up doors, in place of a zip. They can be loops and toggles or loops and eyeslets, which should be threaded through each other.
- Dollies** - a wooden top that sits on top of an upright pole. It secures the tent fabric and provides an anchor point for storm guys, which take the strain of the tent in heavy weather. They are only common on older or traditional style tents.
- Flysheet** - a waterproof outer layer, which is usually made from a heavier and more durable material than the inner. Some tents do not have a flysheet.
- Groundsheet** - a heavy-duty waterproof sheet that forms the floor of the tent. The groundsheet may be separate or sewn-in.
- Guy lines** - also known as guys or guy ropes. These lines are tied to the tent and secured in the ground with pegs. They pull the tent fabric tight to create its shape and anchor the tent to the ground. They should be kept taut to avoid sagging.
- Guy-out loops** - fabric or rubber loops located along the edges of the tent, for securing guy lines.
- Inner door or canopy** - the inner part of a double-walled tent. In lightweight tents this is usually a lightweight and breathable layer. When the tent is pitched, it should not touch the flysheet - the air gap between the two layers stops water seeping through.
- Pegs** - used to secure tents and guy lines. They can be made from plastic, wood, steel or aluminium.
- Pegging points or lashings** - small loops at the bottom edge of a tent for placing tent pegs. The loops can be made of cord, fabric or rubber, and are usually located at strong points such as seams.
- Poles** - are typically made from wood, steel, fibreglass, aluminium or carbon fibre. Wooden and steel poles are used for older and traditional style tents. They are strong and durable, but also heavy. Fibreglass poles are used for inexpensive, light-duty tents. They are light and cheap to replace but not very durable. Aluminium poles are strong, light and durable, and are commonly used for mid-range tents. Carbon fibre poles are found on high-end tents. They are super light and very strong, but more expensive and slightly less durable than aluminium.
- Ridge** - the top of an A-frame tent, from which the sides slope away. On a patrol tent, this is formed by a ridge pole. Do not place anything between this pole and the tent fabric, as this encourages water to seep through.
- Runners** - wooden or plastic brackets that are attached to guy lines. They are used to tighten the line.

- Sail cloth** - a piece of sacking that is attached to the bottom of a patrol tent. It is tucked under the groundsheet to prevent water getting inside the tent.

Good practice

- Tent sizes generally do not include allowances for equipment, so when buying a tent it is often necessary to subtract one person from the manufacturer's recommendations. A two-person tent will be comfortable for one with kit, while a three-person tent will comfortably fit two with kit. Always check dimensions and if possible view a pitched example of the tent before purchase.**
- Practice pitching and striking a tent before taking it on camp.**
- Make sure that the seams of your tent are taped. If not, apply seam sealer to prevent water entering via the stitch holes.**
- Consider making a tarpaulin footprint to protect your groundsheet. Place your erected tent on top of a tarp, trace the outline with a marker and cut it out. Cut a three inches inside the line, as a footprint that is slightly smaller than the tent will prevent water from being channelled underneath.**
- Avoid pitching tents under trees or on stony ground.**
- Close tent flaps before pegging out. This maintains the shape of the tent and ensures that you'll be able to close tent flaps easily.**
- Stretch the guy lines of canvas tents at night or if rain is expected, as water causes canvas shrinkage. This may result in pegs being pulled from the ground, broken ropes or torn tent fabric.**
- If pitching a lightweight tent and a pole jams when being threaded into a sleeve, it is likely that one of the metal joints is caught. Check for snagging and release it.**
- Tighten guy lines periodically to prevent sagging, but do not place them under excess tension.**
- Prevent condensation forming inside tents by opening vents in mild weather and keeping storm flaps rolled under as needed.**
- If staying on the same site for some time, move tents occasionally to aid grass recovery.**

Safety guidelines

- Guy lines are a major trip hazard when using tents. Ensure that Scouts are aware of their positions. You may want to mark guys that present likely dangers with flags, or use reflective high-visibility guy lines.**
- Don't construct campsite tracks or walkways with tents or guy lines.**
- Avoid pitching tents under trees (in case of falling branches) or on the banks of a river or lake.**
- Familiarise yourself with campsites shortly after you arrive. Ensure that you are aware of potential hazards such as lakes, rivers or ponds, and that you know where the campsite exits are.**
- Make sure tents are positioned well apart from each other to prevent the risk of a fire spreading. Check the specific rules at your campsite, some recommend that tents are pitched six metres apart.**
- Devise an escape plan, and be prepared to cut one-way out of a tent if a fire breaks out. A fire can destroy a tent within 60 seconds.**
- Never use naked flames inside a tent.**
- Where possible, cook outside and away from tents. Even if cooking in a dedicated kitchen or mess tent, be fire proof. Keep all stoves away from the roof and walls of the tent and keep flammable material, such as gas canisters, away from the cooking area. Ensure all matches and lighters are stored safely.**

Care of tents

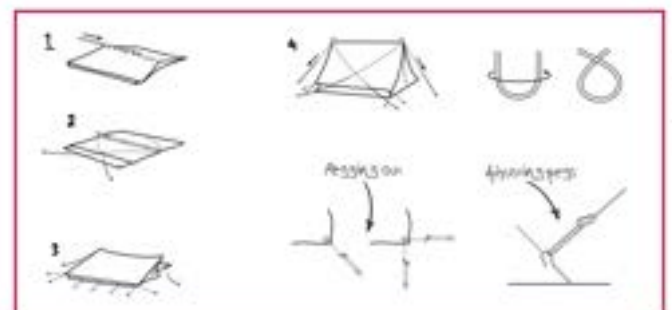
- Never let objects (or Scouts!) touch the inside of a tent in the rain, as water will seep through the fabric.**
- Remove shoes and boots before entering a lightweight tent.**
- Do not walk over the flysheet or inner liner of a tent when pitching or striking it, as this may damage the fabric.**
- Do not rub corners - always pitch tents properly, and fold and pack them carefully for storage to avoid damage.**

Pitching a patrol tent

A patrol tent is the traditional Scouting tent. It usually requires at least three people to pitch it.

Lightweight tents are designed to be easier to pitch than patrol tents, and pitching can usually be done by one or two people, depending on the size of the tent. However, individual types and models vary considerably, so refer to the manufacturer's instructions for help.

- Find a clear, flat area of ground. Ensure that the door of the tent will not face into the prevailing wind.
- Empty the tent bag and lay out the various parts of the tent. Ensure that you are not missing any vital parts.
- Peg out the groundsheet in the intended position.



CAMP FIRE COOKING



-crossing the main guys diagonally backwards.

Pegging out

- Use a wooden mallet to hammer wooden pegs into the ground, and a rubber mallet to hammer in metal pegs.
- Pegs should go into the ground at a 45-degree angle. Guy lines should pull on them at a 30-degree angle.
- A tent peg is at the correct depth when the socket just leaves the guy line off the ground.
- To remove a peg or loose nail, sand or some simple hand tools such as rocks or logs to brace the peg. You may even be able to force these in the ground. Alternatively, use more than one peg for each guy line, or fatten guy lines to trees.

- Open out the tent on the ground, inner side uppermost. Assemble the ridge pole and uprights, and feed the ridge pole through the loops attached to the ridge of the tent, taking care not to stand on or damage the canvas.
- Put in four large pegs for the main guy lines. Don't anchor them too deeply - they will probably need to be adjusted later.
- Place the spikes on the uprights through the holes in the ridge pole and the eyelets in the canvas. Then fold the canvas over to form the ridge of the tent.
- Attach the main guy lines to the previously placed pegs and put the dials over the spike of the uprights. Reposition the pegs as necessary.
- Stand the tent upright, raising the uprights simultaneously to avoid bending the spikes. Hold the uprights until the main guy lines have been tightened. The tent should now be upright but unstable. Ensure that the doors of the tent are done up. Peg out the door and corner brailings.
- Peg out the other guy lines, starting in the middle and working towards the corners. This allows sag to be taken out and keeps walls taut. Generally, if a guy-out loop has one guy line it should be pitched straight out. If it has two guy lines, they should be placed in line with the seam they are supporting. Place pegs so that, when taut, the runner is about a third of the way up the guy line.
- Loop and peg out the brailings to keep the tent walls straight. Looping the brailings helps prevent them slipping off the pegs.
- Adjust the main-guy lines as necessary, checking that the tent poles are upright. Do not move the poles when the guy lines are taut. A patrol tent can be storm set to provide extra protection against bad weather by

STRIKING A TENT

- In general, a tent is 'struck' (taken down) in the reverse way to which it was pitched. However, there are a few useful points to consider:
- If your tent has a separate groundsheet, take this up first. Remove it from the tent and turn it over to dry the underside. Remove grass and dirt before packing away for storage.
 - Remove tent pegs by slackening the guy line and using it as a handle, caught under the peg notch. Pull in the with the direction of entry by bending your knees and then standing up.
 - Scrape dirt and soil from pegs before packing them away.
 - The guy lines up by folding its length into thirds, then tie the whole bundle in an overhead knot. This means it will always come out straight and unknotted by simply undoing the overhead knot.
 - When folding collapsible tent poles, start from the centre to prevent excess strain on the inner shockcord.
 - Most tents can be easily packed back into their bags by simply folding the inner and flysheet into a long thin shape, the same width as the bag. Then roll the tent around the poles to expel the air.
 - Try not to pack a wet tent. In some instances this is unavoidable, but ensure that tents are unpacked and dried as soon as possible. Damp tent fabric and guy lines are soon affected by mildew and will start to rot.

Find out more

You can often download pitching instructions from tent manufacturers' websites. For further guidance on tents and campsites, the Nights Away Yearbook and the Outdoor Adventure Manual (Haynes, 2013) are useful references. A wide variety of tents and camping equipment is available from Scout Shops: scoutshops.com

Chocolate baked bananas

Top tip

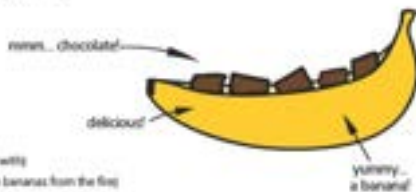
Other fruit, such as an apple or a pear, could be used instead. Why not experiment?

Ingredients

- 1 x banana per person
- Chocolate (around 5 chocolate chunks per banana)

Utensils

- Foil (or hot oven)
- 1 x knife
- 1 x chopping board
- Tin foil (enough to wrap each banana)
- 1 x spoon and plate per person (to eat with)
- Metal food tongs/long sticks (to remove bananas from the fire)



Method

- Make a slice in the banana skin, along one side from end to end, making sure you slice into the banana.
- Carefully make the slice slightly wider using your fingers (but do not rip off or peel the skin off).
- Carefully push the chunks of chocolate into the banana, along the slice.
- Completely wrap the banana in tin foil and place on hot embers.
- Leave to cook for 10-20 minutes or until soft and mushy!
- Carefully remove from fire, unwrap and eat!

*Be careful - it will be very HOT!

Bannock bread

Top tip

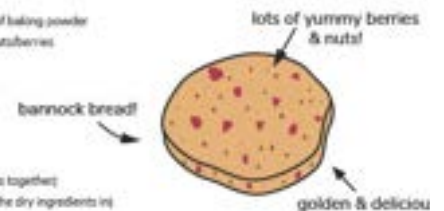
Prepare your dry ingredients at home & carry with you in your next hike for a delicious treat!

Ingredients

- 1 & a half cups of plain flour
- 1 cup of powdered milk. Half a tsp of baking powder
- Half a tsp of sugar. Seasonal fruit/nuts/berries
- Water & olive oil

Utensils

- Foil
- 1 x frying pan, 1 x cup
- 1 x spoon (for mixing the ingredients together)
- 1 x large ziplock food bag (to carry the dry ingredients in)



Method

- Make a good fire & let it die down to hot embers with no flame.
- Put a small amount of oil in your frying pan & let it heat up on the embers.
- Add half a cup of water to your dry ingredients & mix well together.
- Add your seasonal fruit/nuts/berries. These could be picked when out on your walk. Be careful you know what you are eating!
- Once mixed together, flatten the dough, making sure that it is no more than 2.5cm thick & place in the hot frying pan.
- Fry the bread on both sides for about 7 minutes or until golden.
- Once cooked, break open with your hands & eat!

*Be careful - it will be very HOT!

Pitta Bread Pizza

Top tip

Why not add extra cheese and herbs in the middle of your pitta bread to make it a stuffed crust?

Ingredients

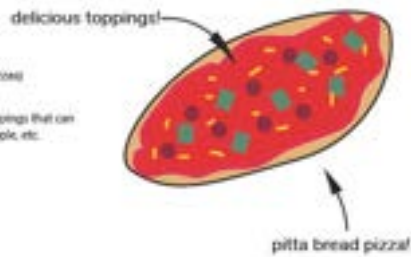
- 1 x pitta bread per person
- Tomato purée (1 tube makes about 10 pieces)
- Cheese (to grate on top)
- A selection of pre-cooked toppings or toppings that can be eaten raw, eg. sweetcorn, ham, pineapple, etc.
- Butter (to stop the pitta bread burning)

Utensils

- Foil (or cardboard oven)
- Foil (enough to wrap each pizza)
- 2 x knives (for spreading)
- 1 x cheese grater
- Tongs/tuck (to take pizzas off the fire)

Method

- Butter the underside of your pitta bread and place the buttered side onto a piece of foil.
- Spread the top of the pitta bread with tomato purée and then sprinkle with grated cheese.
- Decorate the top of your pizza with your chosen toppings for added flavour.
- Loosely wrap the foil around your pizza.
- Place on hot embers until the cheese has melted.
- Once ready - Eat!
- *Be careful - it will be very HOT!



S'mores

(makes 2 per person)

S'mores always leave you wanting 'some more'!

Top tip

Use chocolate spread or a chunk of chocolate with plain biscuits for a super chocolatey treat!

Ingredients

- 4 chocolate covered digestive biscuits
- 2 marshmallows

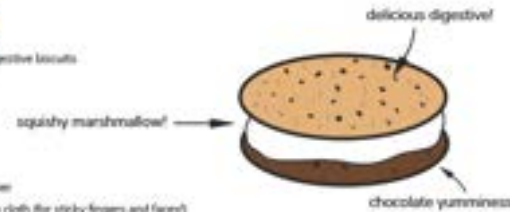
Utensils

- Foil
- A soaked wooden skewer
- Paper towels or a damp cloth (for sticky fingers and faces!)

Method

- Make sure your wooden skewer has been soaked in water to help stop it setting on fire. *Sewans - DO NOT use metal skewers as these will burn your hand when they get hot.*
- Toast a marshmallow in embers until it is golden and gooey.
- Make a marshmallow sandwich using the gooey marshmallow and 2 chocolate covered digestive biscuits, making sure that the chocolate sides are in the middle.
- Wait for a few moments for the heat of the marshmallow to melt the chocolate, then EAT!
- Repeat steps 2 - 4 using the skewer from step 1.

*Be careful - the marshmallow will be very HOT!



Orange Cake

Top tip

Use chocolate spread or different flavoured jam for a twist on this delicious treat.

Ingredients

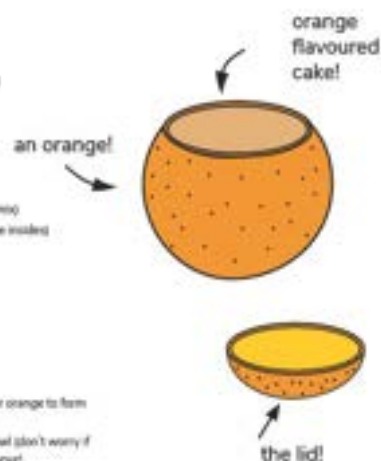
- 1 x large orange per person
- Cake mix (1 packet is enough for 8 oranges)

Utensils

- Foil
- 1 x sharp knife and cutting board
- 1 x measuring jug and whole/flour (for cake mix)
- 1 x bowl and spoon (for scooping out orange insides)
- 1 x bowl and spoon (for cake mix)
- Foil (enough to wrap each orange)
- Tongs/tuck (to take cakes off the fire)
- 1 x spoon (for eating with)

Method

- Slice about 2cm down across the top of your orange to form the lid.
- Scoop out the inside of the orange into a bowl (don't worry if you can't get it all out - it just adds more flavour).
- Half fill the orange shell with cake mix.
- Put the lid back on your orange and completely wrap with foil.
- Place the orange on to the hot embers of a fire for about 20mins, turning regularly.
- Unwrap and remove lid to check.
- Once cooked - Eat! (with a spoon)
- *Be careful - it will be very HOT!



Dough Twists (dampers)

Top tip

For a savoury snack twist the dough round a pre-cooked sausage and cook.

Ingredients

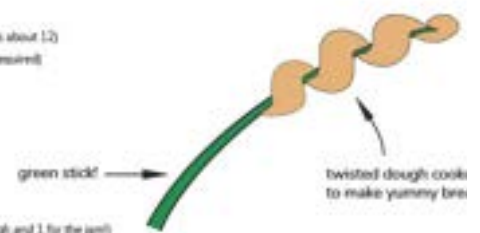
- 500g self raising flour (makes about 12)
- 400ml water (more may be required)
- Jam (strawberry is yummy)

Utensils

- Foil
- 1 x measuring jug
- 1 x mixing bowl
- 2 x spoons (1 for mixing dough and 1 for the jam)
- Live green sticks (1 per person to cook the twists on)
- Hand washing facilities/ a cloth for doughy/sticky hands!

Method

- Make the dough by mixing the flour and water together until you get a nice doughy consistency. (You may need to add more than 400ml of water. Add a bit more flour if it is too sticky!)
- Peel about 15cm of bark off the top of each stick. (Remember - they need to be long enough to reach into the fire without getting burnt and strong enough to hold the dough). Each stick needs to have its bark peeled so it is logistic to cook on - the green part that is revealed should be free from germs. Dead sticks should not be used.
- Twist the dough around the stick and cook over embers until golden brown.
- Once cooked, spread with jam and eat!



Camp doughnuts

Top tip

Use chocolate spread or different flavoured jam for a twist on this delicious treat.

Ingredients

- 2 slices of bread (makes 4 doughnuts)
- Jam (strawberry or raspberry is good)
- Batter mix (1 packet makes 12 doughnuts)
- Sugar (to roll your cooked doughnut in)
- Oil (to fry doughnuts)

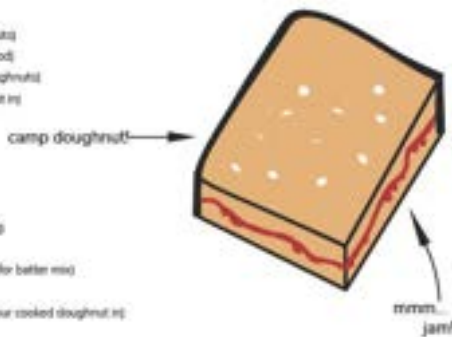
Utensils

- Fry (or gas) hob
- 1 x knife (for spreading and cutting)
- 1 x chopping board/plate
- 1 x measuring jug and whisk/fork (for batter mix)
- 1 x frying pan
- 1 x bowl (for sugar) (Sugar to roll your cooked doughnut in)
- Oil (to fry doughnuts)

Method

1. Make a sandwich using 2 slices of bread and some jam.
2. Cut the sandwich into 4 squares.
3. Roll each square of sandwich in the batter mix.
4. Fry each square on both sides until golden brown.
5. Once cooked, roll each square in sugar.
6. Eat!

*Be careful - it will be very HOT!



Christmas Pudding

Top tip

Sprinkle with cinnamon and serve with cream for a delicious Christmas Pudding Christmas treat.

Ingredients

- 2 slices of brown bread (per person)
- Margarine or Butter
- Currants and Sultanas
- Oranges peel and slices
- Apple slices
- Sugar

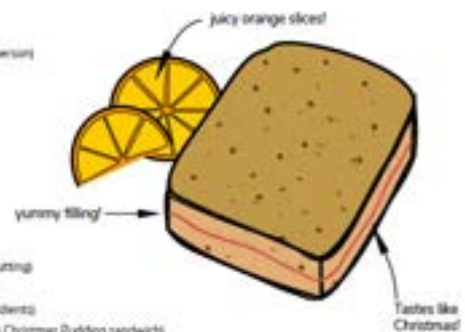
Utensils

- Fry
- 1 x knife (for spreading and cutting)
- 1 x chopping board/plate
- 1 x bowl (for mixing the ingredients)
- Tin Foil (enough to wrap each Christmas Pudding sandwich)

Method

1. Butter one slice of bread and lay butter side down onto the foil.
2. Prepare a mixture of dried fruits, grated orange peel, slices of apple and orange, sugar and butter or margarine.
3. Spread the mixture onto the bread, place another piece of bread on the top and butter the top of the sandwich.
4. Wrap in the foil and place on embers for about 8 minutes on each side.
5. Eat!

*Be careful - the filling gets very HOT!



Camp fudge

- 2oz ICING SUGAR
- 1 TBSP BUTTER
- 2 TSP CREAM CHEESE
- 1 DASH VANILLA ESSENCE
- 2 TSP COCOA

1. PILE ALL THE INGREDIENTS INTO A PLASTIC SANDWICH BAG (ZIP-LOCK CLOSURE), SQUEEZE ALL THE AIR OUT AND SEAL IT UP

Scouts
1st Westgate-on-Sea

2. STICK IT UNDER YOUR ARM



SHAKE AND YOOOSH UNTIL IT'S ALL MIXED AND THE FUDGE HAS TAKEN ON A creamy CONSISTENCY

YOU CAN PEP IT UP WITH SOME EXTRA TREATS LIKE:
RAISINS M&MS PEANUT BUTTER NUTS

3. OPEN THE BAG, GRAB A SPOON AND DIG IN!



cubs