

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.
- **Braided 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.

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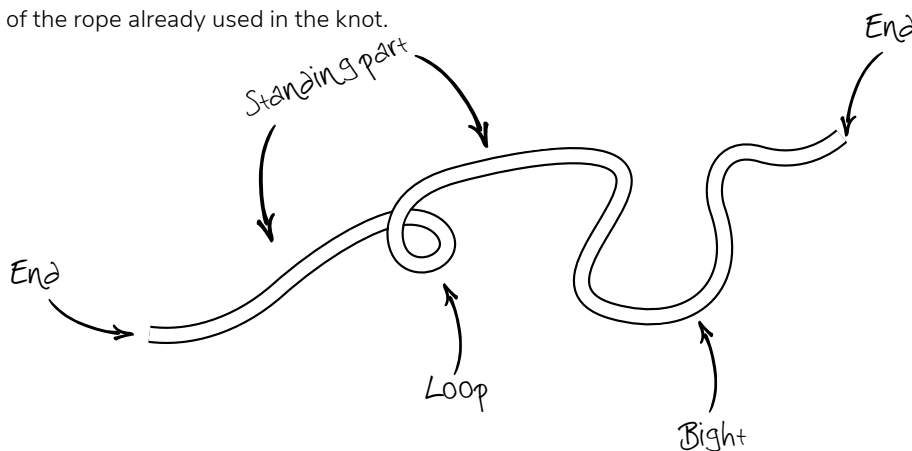
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Parts of a rope

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.
- **Bight** – a loop made by turning the rope back on itself without crossing the standing part.



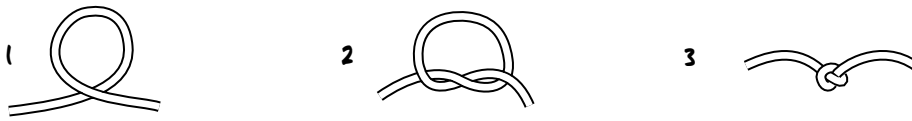
Common knots

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.

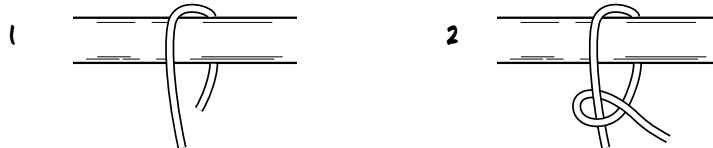
Overhand knot

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 size. 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 thicknesses.

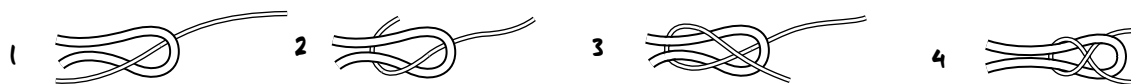
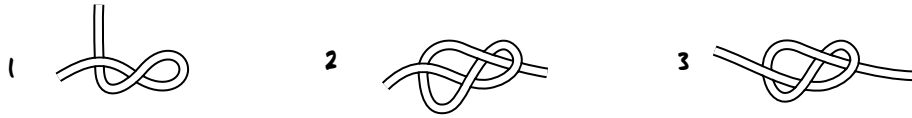


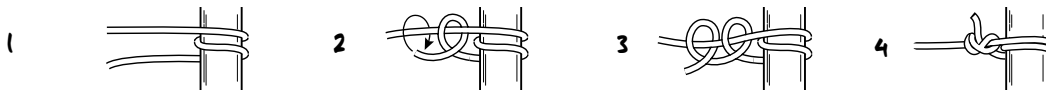
Figure of eight

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



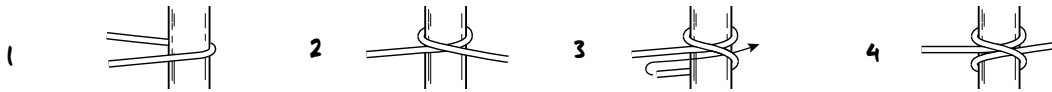
Round turn and two half-hitches

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.



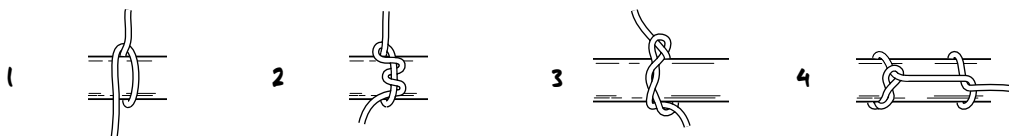
Clove hitch

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 dropped 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 tie a boat to a mooring ring or an animal to a rail or post.



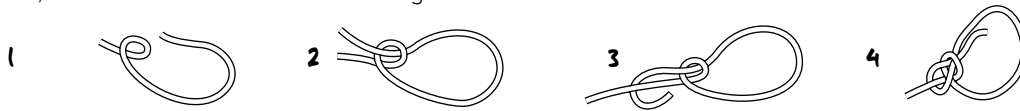
Sheepshank

The 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 'S'). 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 eye, 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 practice 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

- Coil rope when not in use so it does not present a trip hazard.
- Ensure that Scouts do not tie knots around their limbs 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 bear a load or take a strain.
- If using a knot to bear 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.