

KNOTTING

General Introduction

The knots in the Cub Personal Progressive Scheme are chosen because of their usefulness, simplicity and the fact that they are the building blocks upon which other knots are based. In order to follow instructions below, it is necessary for the Leader (but not the Cub Scout) to understand some definitions.

Types of Rope

Polypropylene Rope

Polypropylene is one of the very few ropes that float due to its lightweight. For this reason, it is very popular for pool markers and water sports. Poly is affected by sunlight deterioration, more than any other synthetic or natural fibre rope, but its life can be extended by storing it away from sunlight. It is not as strong as nylon or polyester, but 2-3 stronger than manila and is less expensive than other fibres, hence it is the most popular rope for the average consumer.



Nylon Rope

Nylon is the strongest of all ropes in common use. When stretched it doesn't deform easily and return to its original length. For this reason it is best for absorbing shock loads as in the case of lifting or towing. Nylon lasts 4-5 times longer than natural fibres because it has good absorption resistance and is not damaged by most chemicals. Like manila, Nylon has good resistance to ultraviolet deterioration (from sunlight) referred to as 'UV-Stability'.



Polythene Rope

Polythene Rope is mainly made from plastic. It is produced in many colours. This type of rope is mainly used for clotheslines and in fishing industries due to its floating capacity. This rope is damaged by long exposure in the sun.



Manila Rope

Manila rope is very durable, flexible and resistant to salt water damage. It can be used for hawsers, ship's lines and fishing nets. It can be used to make handicrafts like bags, carpets, clothing and furniture. Manila ropes shrink when they become wet. This feature can be used if this effect is required. On the other hand if not, it should be taken into account. Since shrinkage is bigger the first time the rope gets wet, a new rope is usually immersed into water and put dry before use. So when the rope gets wet again, the shrinkage is less than it would be the first time.

Since a manila rope shrinks when it gets wet, many knots made with it become harder and more difficult to untie. Furthermore the tied part becomes subject to an increase in stress.



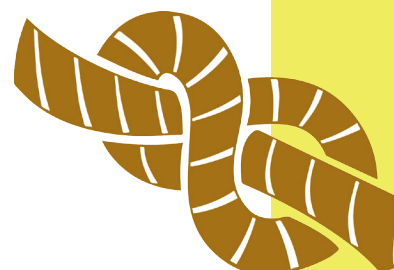
Sisal Rope

Sisal rope, like manila rope, is a hard natural fibre, but its strength is about 20% less than manila. It too has excellent resistance to sunlight and good knotting-holding ability. Sisal must be stored dry to avoid mildew, and chemicals which cause deterioration. Common uses include gardening, bundling, shipping and tie downs where strength is not of critical requirement.



Hemp Rope

Hemp rope is made of natural hemp (Cannabis). It is very resistant to outside weather. It's use has decreased since the introduction of Nylon and increase in prices year after year. It is commonly used for decoration where an old, natural looking rope is required.



Parts of a Rope

The standing part is the main part of a rope (not part of a loop or bight) as opposed to the end of a rope.

The end, as the term implies is the end or unsecured part of a rope.

A bight is a half or open circle in a rope. It also refers to the middle of a length of rope.

An elbow consists of two crossing points created by an extra twist in a loop.

A loop is a closed 'circle' in a rope.

The standing end is the longer end of the rope not involved in the knot, often shown as unfinished. It is often (but not always) the end of the rope under load after the knot is complete. For example, when a clove hitch ties a boat to a pier, the end going to the boat is the standing end.

A Stopper knot is used to prevent unravelling.

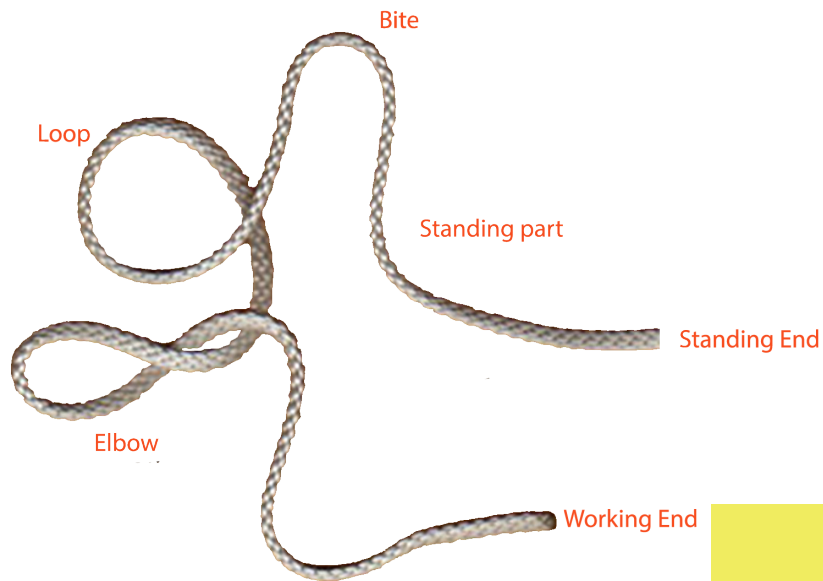
A Binding knot may be used to keep an object or multiple loose objects together by using a string or a rope that passes at least once around them.

A Hitch is used to tie on an object such as a spar or tent peg.

A Lashing is an arrangement of rope or webbing with linking device used to secure and fasten two or more items together in a somewhat rigid manner.

Knotting Tips

When teaching cubs to tie knots try to use ropes that handle nicely i.e. not sisal, string or polypropylene (clothesline type 'rope'). If possible, when tying two pieces together use different coloured pieces of rope.



Knotting for Bronze Arrow

Thumb Knot (Overhand Knot)

The Thumb Knot is the most basic of knots, used unconsciously by almost everyone at some point in time. It is very secure, to the point of jamming badly. It should be used as if the knot is intended to be permanent. It is often used to prevent the end of a rope from unravelling.

Take the rope in your left hand and form a loop by bringing the end under the standing part and then tuck the end through the loop from above. Pull tight to form the knot.



Step 1 Create a loop



Step 2 Push the working end through the loop with your thumb



Step 3 Pull tightly



Reef Knot

The Reef Knot is a popular and widely used knot. It is generally employed for tying together the two ends of the same rope together such that they will secure something. As it lies flat, it may also be used in first aid for tying a sling of a bandage or by sailors for reefing and furling sails.

The reef knot figures prominently in Scouting worldwide. It is included in the International Membership Badge and many scouting awards. In Scouting Pioneering, it is commonly used as binding knot to finish off specialized lashing and whipping knots. However, it is an insecure knot, unstable when jiggled, and is not suitable for supporting weight. It should not be used for tying two pieces of rope together when the knot comes under strain or if the ropes are wet.

The simple way to teach this is by simply by saying:

Steps 1-2 Left on Right ...Turn

Steps 3-4 Right on Left ...Turn

Step 5 Pull tightly



Step 1



Step 2



Step 3



Step 4



Step 5

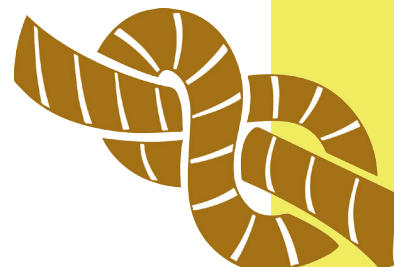


Figure of Eight

The Figure of Eight is a better stopper knot than the Thumb Knot as it has better bulk and is easier to untie. It gets its name from its appearance and provides a quick, convenient stopper knot to prevent a line sliding out of sight. It does not easily slip. The figure of eight can fall undone and then has to be retied.

- Step 1** Take the rope in your left hand and form a loop by bringing the end under the standing part
- Step 2** Lead the end around the standing part
- Step 3** Then tuck the end through the loop from below
- Step 4** Pull tight to form the knot



Step 1



Step 2



Step 3



Step 4



Some Uses of Stopper Knots

- o To keep a conker on the end of a string.
- o At the end of a piece of thread when sewing on a badge.
- o For tying the neck of a balloon to keep it inflated.
- o For stopping any rope or string from disappearing through a hole.

Shoe Laces

It is assumed that the Leader knows how to tie a shoe lace. Therefore no further explanation is needed.

Hank A Rope

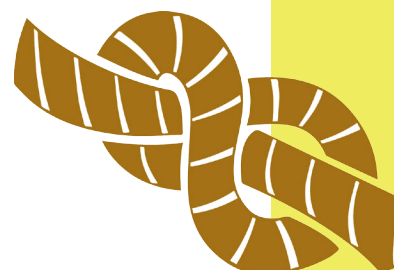
The Hank is a simple way to store ropes neatly.

Steps 1-2 Take one end of the rope in your hand, hold out your arm and start coiling the rope in circles. Repeat until a few yards are left from the rope.

Step 3 Then circle three or four times in the centre of the rope

Steps 4-5 Take a part of the remaining rope through the upper half, form a loop and pull it over (all the upper part).

Steps 6-7 Pull tightly



ACTIVITY FACT SHEET

Suggestion:

- The concepts of the knotting should be done in a practical session with the cubs, show them how to make them, giving them examples from our everyday life and let them try it.



Activity: Pack Meeting



Objective: Learn the very basic knots



Time: 1-2 weeks



Outline: Always start from the very basic to offer the possibility for some to learn and for others to practice. Those who already know some of them can help in teaching the others.

The cubs need to have a rope each. Show them how and allow them to learn by doing. Let them explore and understand in their own way. It is important to assist and check their work so they learn them correctly.

Do not forget to give them examples of what the particular knots are used for. It will give knotting a useful perspective. You can also encourage them to use them during the camps to come.



Equipment: Ropes



Place: Group HQ/ Campsite/ Outdoors



Group Size: Bronze Section



3rd Parties: N/A






BRONZE ARROW



ACTIVITY FACT SHEET



During the Activity:

-  – The cubs help each other by explaining and showing the knots to each other.
-  – The knots need to be tied up nice and strong so that they won't untie.
-  – Helping the cubs realise the importance of knots and their uses. Point out that knots are not only used in scouting and pioneering projects, but also in everyday life like doing the shoelace.
-  – Encourage the cubs to practice the learnt knots at home. Ask them to experiment with the different knots in different situations in their everyday life.
-  – When finished with practicing, divide the cubs in sixes and ask each six to tie their ropes together with reef knots to make a longer rope. Help them reflect on the fact that the rope is longer when united with others. Then ask the different sixes to tie their longer ropes together, to form an even longer rope. Help them reflect that strong knots can be like strong relationships in their lives. Ask them to mention what relationships they have (e.g. parents, siblings, friends, etc) and how do they maintain them (e.g. offering help, being kind, caring for each other, etc).

BRONZE ARROW

After the Activity:

You will need to observe the cubs during daily meeting (for shoe lace) and during camps to see if they really understood how to do and apply the knots they learnt. Also prompt them to practice them since if not practiced, knots can easily be forgotten.

