Tied Up In Knots

"Topmen, aloft!" sang out the commodore in a piercing voice that rose above the screaming wind and roar of the sea. "Take in the topgallants and royals!"

We all raced aloft; but no sooner had these sails been furled and we returned to the deck than the commodore was at us again.

"Reef topsails!" he shouted even louder than before. "Away aloft—take in one reef!"

Mick and I scrambled up, almost out of breath, into the mizzen-top; which we hardly reached before we heard the commodore give the next order necessary to enable us to take in the reef—

"Weather topsaill braces, round in! Lower the topsails!"

~ *from* Young Tom Bowling *by J.C. Hutcheson*, 1896.

Do you know how to tie a reef knot? A sailor's life and the safety of the entire crew and ship can depend on the quality of knots he ties. Sailors take pride in being able to match the right knot to a specific job, and even modern sailors need to master this skill.

"In the rigging". In *The South Pole*, by Roald Amundsen, 1872-1928.
Archival Photograph by Mr. Steve Nicklas, NOS, NGS. Courtesy NOAA

What You Will Do

Learn to tie some basic knots that have been used by mariners for centuries and are often useful in everyday life

What You Will Need

❒ One or more pieces of rope, about 3 feet long; nylon, polypropylene, manila, or cotton ropes, 1/4-inch to 1/2-inch in diameter work well

❒ Pictures or video showing how to tie knots

How to do It

There are three different types of "knot."

- A **Bend** is used to join two ropes (often of different diameters), or to fasten a rope to an eye, ring, or other structure. *Examples: sheet or becket bend; anchor bend*

- A **Hitch** is designed to stay in place under strain, but remain easily adjustable when the strain is removed. *Examples; clove hitch, half hitch, rolling hitch*

- A **Knot** is used to fasten ropes together, or to fasten a rope to an object, or to enlarge the end of a rope (as in a stopper knot.) A stopper knot is usually tied at the end of a rope to prevent the line from slipping through an eye, ring, or pulley. A good knot must be able to be easily untied. *Examples; bowline, reef (square) knot, overhand knot, figure eight knot*

Five Useful Knots

Bowline

Uses: Forms a loop at the end of a rope that will not slip (close up) when the rope is under tension. This knot is easy to untie, even after it has been under high strain.

How to Tie It: Be sure the free end of the rope lies inside the loop when the knot is completed.

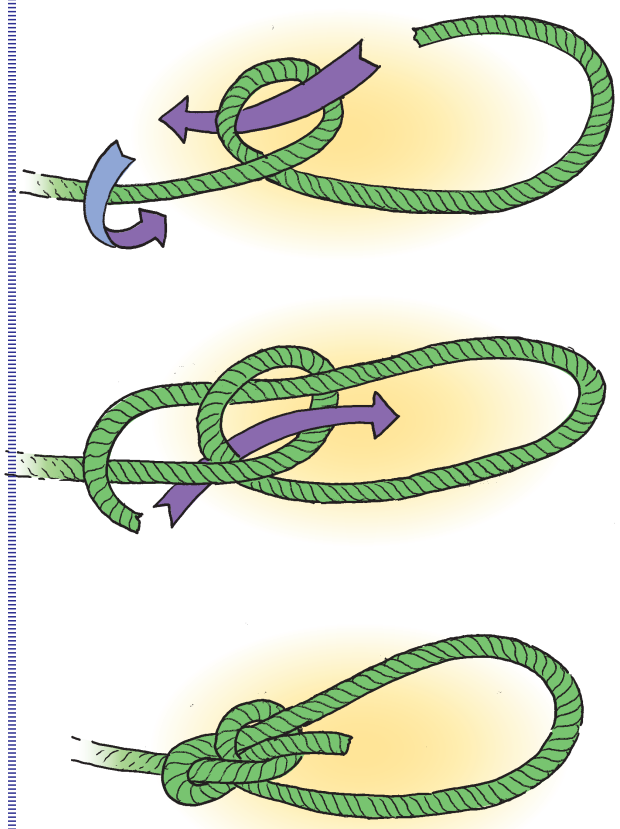
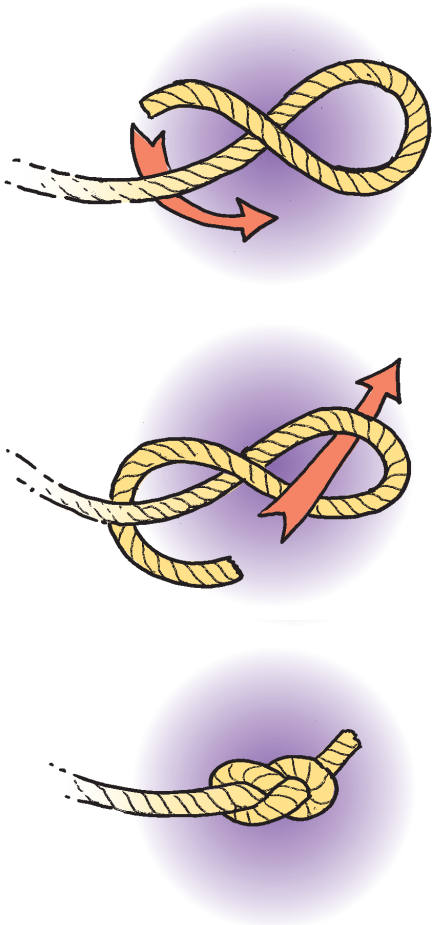


Figure Eight

Uses: A "stopper" used to prevent the end of the rope from slipping through a pulley. Also used in mountain climbing to secure a rappelling line to a climbing harness.

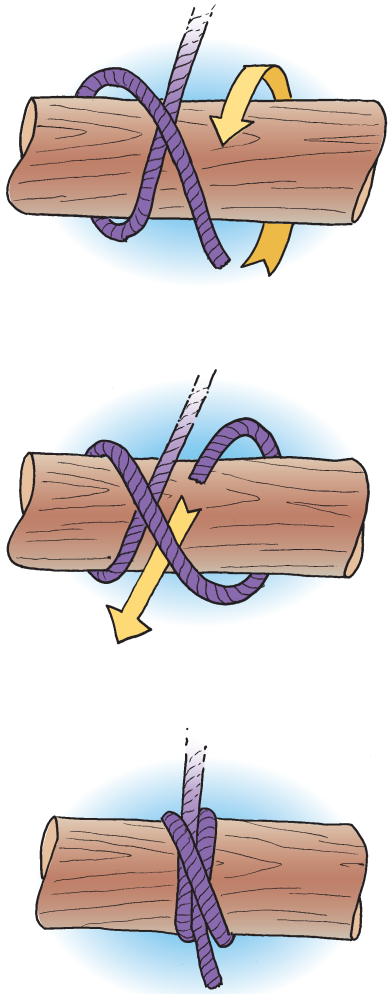
How to Tie It:



Clove Hitch

Uses: Used to secure a line to a round object such as a post or rail.

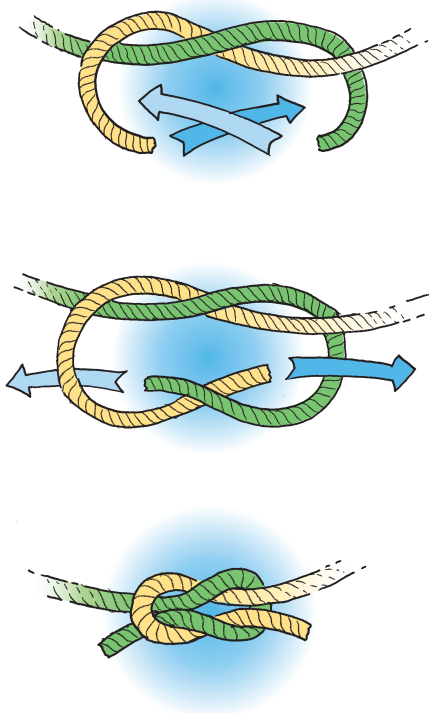
How to Tie It:



Reef Knot (Square Knot)

Uses: Used for lashings and other situations where a line must be tied around an object, but should NEVER be used as a bend to tie two ropes together. "Reefing" a sail means to make the sail smaller by partially folding or "furling" the sail. A Reef Knot is used to tie the sail in a partially folded position.

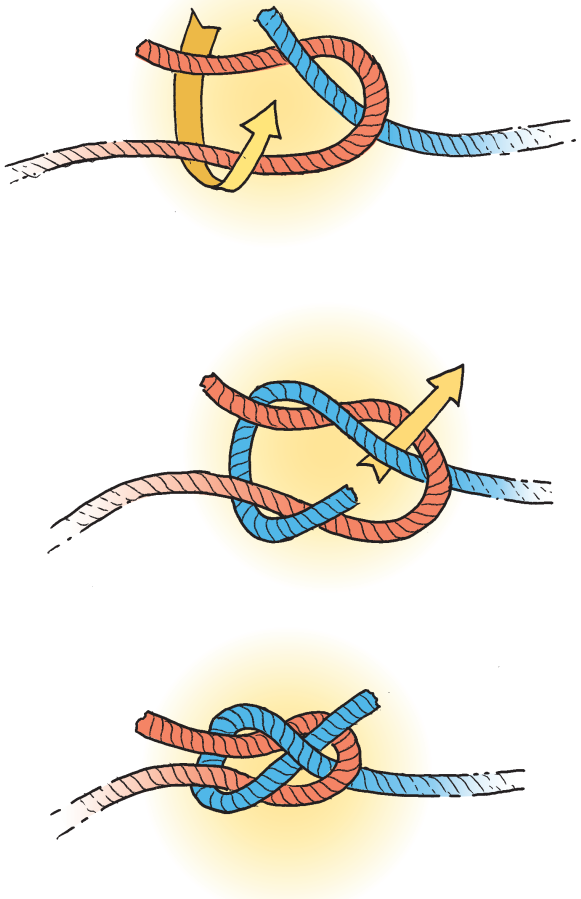
How to Tie It: If you grab one of the free ends and jerk it across the knot, the knot will "capsize" and slip apart easily.



Sheet Bend

Uses: One of the best bends for joining two ropes together, especially if the ropes do not have the same diameter.

How to Tie It: The rope with the larger diameter should be used for the loop.



Turn Your Knot Tying Skill into a Game:

Organize a knot tying race. Give each contestant five pieces of rope, and see who will be first to correctly tie all five knots. If one knot is wrong, the contestant loses. If this seems harsh, remember that a single badly tied knot can be disaster for mariners at sea.

Want to Know More?

There are lots of books on knot tying and ropecraft. Two very good ones are:

Knotcraft: The Practical and Entertaining Art of Knot Tying by Allan and Paulette Macfarlan; Dover Craft Books, 1983

The Arts of the Sailor – Knotting, Splicing and Ropework by Hervey Garret Smith; Dover Publications, reprint edition

You can find animated knot tying instructions in the Tollesbury Sailing Club's knot gallery at *http://www.tollesburysc.co.uk/Knots/Knots_gallery.htm*

Another Web site with instructions for tying many different knots is: *http://www.2020site.org/knots/*

FIG. 17.—The Dredging and Sounding Arrangements on board the 'Challenger.'

The dredging and sounding arrangements on board the CHALLENGER.
In *The Voyage of the CHALLENGER - The Atlantic* Vol I, by Sir C. Wyville Thomson, 1878.
Archival Photography by Steve Nicklas, NOS, NGS. Courtesy NOAA