

Use this section for power words.

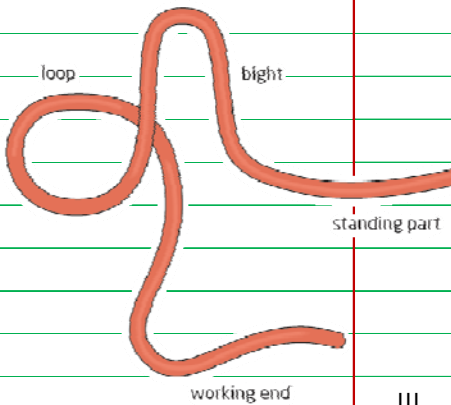
Chuyên Môn ~ Nút Dây (Knots Basics)

I. Introduction - Knot Basics

A knot is a method for fastening or securing linear material such as rope by tying or interweaving. Whether you're boating, camping, climbing, fishing, hauling, sailing, or doing work around the house or yard, knowing a few strong, secure, and **easy-to-untie** knots can make the job much easier.

II. Terminology

- A. **Line:** The rope or cord in which a knot is being tied
- B. **Working end:** The end of the line used to tie the knot
- C. **Standing end:** The end of the line *not* used to tie the knot (this end is often left out of images that show how to tie a knot)
- D. **Standing part:** The section of line between the knot and the standing end
- E. **Bight:** A stretch of line formed into a "U" or semicircle that does not cross itself (some knots can be tied using the bight of a rope rather than the ends; these knots are said to be **tyed in the bight**)
- F. **Loop:** A closed section of line, formed when the working end of the rope passes over itself



III. Categories of Knots - Nearly all knots that TTTT uses fall into five basic categories, each of which serves a particular purpose:

- A. **Stoppers:** Used to stop a line from passing through a hole or pulley
- B. **Bends:** Used to join two separate lines together at their ends
- C. **Hitches:** Used to attach a line to a stationary object, such as a hook or post
- D. **Loops:** Used to create a closed circle in a line that is of either fixed or adjustable size (variable loops are called **slip knots** or **nooses**)
- E. **Lashings:** Used to fasten together two solid objects, such as metal poles or wooden branches

IV. Properties of Knots - Different jobs demand knots with different attributes. A knot used to tie an anchor to a boat needs to be extremely secure, and since you're unlikely to want to untie the anchor from the line, it doesn't matter much if the knot has a tendency to jam. On the other hand, a hitch used to tie down a load must be secure enough to hold the load temporarily but also easy to untie. Every type of knot can be described in relation to the following four attributes or properties:

- A. **Strength:** All knots weaken rope to some degree, as the twists and turns needed to make a knot weaken the fibers in the cord. Some knots weaken a rope up to 50%, others less. To be safe, it's best to assume that *all* knots will cut the strength of a rope in half. Always make sure the rope you're working with can carry more than twice the load it will need to bear.
- B. **Security:** Some knots **slip** or **spill** (come apart) when jostled, slicked by water, or subjected to a load. Other knots are more secure and stay intact under even the roughest conditions.
- C. **Ease of tying:** The easier a knot is to tie, the quicker and more convenient it is to use.
- D. **Ease of untying:** Some knots **release** (untie) more easily than others. Ease of untying is crucial in situations when a knot must be tied, untied, and then retied (as in sailing, for instance). A knot that's difficult to untie is said to **jam**.

Homework: Memorize the terminology of a knot, the types of knots and the properties of knots.
Answer the following questions.

Questions:

- 1) What terminology is used when describing the end of the line used to tie a knot?
- 2) What is a bight?
- 3) How many categories of knots does TTTT use?
- 4) What are the properties of knots? List and describe in your own words.