

# Knot Tying

Grade Level(s): 3<sup>rd</sup> & up  
Time: 15 - 25 minutes  
Group Size: 5 - 20 students  
Setting: Outdoors, or Indoors

## Summary

A well tied knot can play a significant role in helping a person catch a fish. In this lesson, students will learn how to tie a clinch knot and bait a hook. Depending on the level of the students, additional fishing knots may be introduced.

## Objectives

After this presentation, students will be able to:

- Reproduce tying common fishing knots.
- Demonstrate how to bait a fish hook.

## Materials

- 2 long wooden knot tying boards (6-8 ft long 2x4 in boards, with lag bolt eyelets 1 ft apart.
- Cord
- Knife
- 8-10 shark hooks with tips cut off
- 10-12 large bobbers
- Large fishing rod
- 3-4 laminated Knot Tying Cards or Handout
- Markers
- Clay
- Clamps

## NYS Learning Standards Core Curriculum ELA

### ELA Standard 1: Language for Information and Understanding

Students will: read, write, listen, and speak for information and understanding. As listeners and readers, students will collect data, facts, and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language to acquire, interpret, apply, and transmit information.

- *Key Idea 1:* Listening and reading to acquire information and understanding involves collecting data, facts, and ideas; discovering relationships, concepts, and generalizations; and using knowledge from oral, written, and electronic sources.

## Vocabulary

- **Bend** – a knot that ties a line or rope to a different line or rope, joining the two together.
- **Bight** – a “U” shape made in a line by turning the working end 180 degrees toward standing part.
- **Bobber** – any type of float attached in a line in order to have visual reference when a fish nibbles the bait.
- **Hitch** – a knot that ties a line or rope to an object, such as a lure, post, or structure.
- **Loop** – a circular opening or “hole” formed by tying the tag end to the standing line.
- **Noose** – a loop whose knot can slide, or slip, on the standing line, thus making a smaller or larger loop that can tighten or loosen around an object.
- **Rig** – the lure or “tackle” one is using.
- **Standing line** - part of the line coming from your fishing reel; the middle part of line.
- **Tag End** or **Working End** - end of the line; the part usually used to tie a knot.

## Background

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### Introduction

If you have ever lost a fish due to a poorly tied knot you know the frustration! A knot well tied will greatly add to the success in catching fish and add to your fun. Here are a few easy tips to help you improve your results:

Tip: Wet your knots with saliva while pulling them tight. This prevents damage to the line and allows the knot to pull tight with less friction.

Tip: Closely trim the “tag ends”. The tag end, or working end, is the end of the line used to tie the knot. The “standing end” is the part of the line that is coming from your fishing reel. Trimming tag ends prevents the knot from catching snags or weeds. Do not burn the tag end—heat damages the line and knot.

Tip: Check your line often for nicks. As a guideline, replace your line and retie rigs at least every year.

### Knot Tying

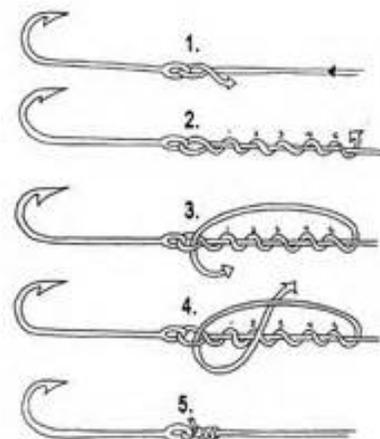
The following are a few basic, but important, knots you can learn that will greatly improve your chance of netting the fish you hooked. Practice these knots to help yourself become an experienced fisherman. There are many, many knots one can learn. Most are a variation on a similar knot. Learn the basic ones and then you can improve upon them.

## The “Clinch Knot” and “Improved Clinch Knot”

These knots are two of the more common fishing knots and are used to tie the fishing line to a hook, lure, swivel, or artificial fly. Both knots start off the same, however the improved clinch knot has one extra step. These knots can be used for saltwater or freshwater.

### *Tying the Clinch Knot*

1. Pass the tag end through the eye of the hook, swivel, or lure.
2. With the tag end, make 5 turns around the standing line.
3. Hold the coils in place and thread the end of the tag line through the first loop closest to the hook's eye (not the hook's eye itself).
4. Wet the line and pull the tag end and standing line slowly, and snug tightly.
5. Pull the standing line, sliding the coils against the eye firmly.
6. Clip the tag end.



### *Tying the Improved Clinch Knot*

1. Follow the same steps for the Clinch Knot, however after passing the tag end through the first loop; pass it through the big loop that was just made.
2. Remember to wet the line before cinching and to clip the tag end of the line.

## The “Palomar Knot”

Another good knot that attaches a hook or lure to a line is the Palomar Knot. This knot is very good to use if you want to change lures or hooks easily.

### *Tying the Palomar Knot*

1. Using the tag end, make a bight about 6 inches parallel to standing line.
2. Thread the bight through the eye of hook.
3. Tie a loose overhand knot with hook hanging from the bottom of the loop.
4. Holding the overhand knot between your thumb and forefinger, pass the loop of line over the hook.
5. Slide the loop over and above the eye of hook.
6. Pull on both the standing line and tag end to tighten knot down onto the eye.
7. Clip tag end.



## The “Uni Knot”

This knot is a good and dependable knot for monofilament to terminal tackle connections. Some anglers find it easier to tie than the Improved Clinch and equally dependable.

### *Tying the Uni Knot*

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1. Thread the tag end through the eye of the hook and double back parallel to the standing line. Make a loop by laying tag end over the doubled line.
2. Make 6 turns with the tag end around the double line and through the loop.
3. Moisten the lines and pull tag end to snug up the turns.
4. Slide the knot down to the eye.
5. Clip tag end.

## The “Dropper Loop”

This knot is used to make a loop in the middle of your line to attach a hook or another rig. The in-line dropper loop is often used to create multi-hook fishing lines where a sinker is needed. This knot is common when fishing in saltwater for fluke, porgy, and blackfish.

### *Tying the Dropper Loop*

1. Form a loop in the line at the desired location. Pass standing -line from one side of loop through and around that side of loop. Make 5+ wraps and keep new loop, which is formed, open.
2. Push bottom of original loop up through new opening and hold with teeth. Wet knot with saliva and pull both ends in opposite directions.
3. Pull ends of line evenly until coils tighten and loop stands out from line.

## The “Double Overhand Knot”

The double overhand knot used primarily for saltwater to make a loop in order to attach a sinker.

### *Tying the Double Overhand Knot*

1. Using the tag end, make a bight about 3-4 inches parallel to standing line.
2. Use the bight to tie an overhand knot, creating a loop.
3. Clip the tag end close to the knot.

## Attaching a Bobber to your Line

To attach a bobber to your line, thread the fishing line through the top and bottom hooks of the bobber.

1. Expose the bottom hook by pressing the top button on the bobber. Thread line through.
2. Expose the top hook by pressing the button while holding the bottom hook in place or pushing up on the bottom hook. Thread line through.
3. You can adjust the amount of line that is in the water by sliding the bobber up or down the fishing line. Be sure to attach the bobber so the fishhook hangs just above the structure (weeds, logs, etc.) or the pond bottom.



## Main Activity

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### Pre-Lesson Set Up

1. Set up knot tying boards with cord.

### Introduction

1. Introduce yourself
2. Introduce the day's activities:
  - a. Knot tying
  - b. Setting up a common fishing rig

### Freshwater and Saltwater

1. Tell students that they will learn some common knots so that they will be able to rig up their own fishing rod here or at home.
2. Show students how to tie a clinch knot or improved clinch knot.
  - a. Option: Use the large fishing pole with the cord and shark hook as an example. Explain that the eyelets on the wooden board symbolize the eyelet on the hook. Step by step instructions work well here.
3. Have each student try to tie their own clinch knot. Let the students use the laminated *Knot Cards* if they need assistance.
4. Walk around offering tips and appraisals.
5. After students have had some practice, have them take turns explaining the knot-tying process.

#### Freshwater: The Rig

1. Show students the next step in the rig process: the bobber.
2. After you have demonstrated how to put on the bobber, let students try putting the bobber on their own clinch knot rigs.

#### Saltwater: The Rig, the dropper loop knot.

1. After you have demonstrated how to tie the dropper loop, let students try tying this knot on their own clinch knot rigs.

#### Freshwater: The Bait

1. Show the students how to properly thread the worm on the hook using clay worms. Have them practice.
2. Students will be baiting their own hooks when they are out fishing.

#### Saltwater: The Bait

1. Show the students how to properly place silversides/spearing (i.e. small fish) on the hook.
2. Invite them to practice with clay or dead fish.
3. Students will be baiting their own hooks when they are out fishing.

## Wrap Up

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### Questions for Discussion

Q: Why is it important to know how to tie knots?

A: As a fisherman you want secure knots so you won't lose your fish.

Q: What is the "tag end" of a line or rope?

A: The end of the line which is used to tie a knot.

Q: What does a "bend" do?

A: Ties two lines together.

Q: What is the purpose of a Bobber?

A: To add buoyancy to a fishing line, so the bait or hook stays off the bottom. A bobber is also a great visual reference to know when a fish nibbles the bait.

### Web Resources

Take Me Fishing: Fishopedia: Overview, 24 November 2008

<http://www.takemefishing.org/fishing/fishopedia/bait-and-equipment/knots/> - A basic "How to" for tying lots of knots. Also info on fishing conservation, how to fish and prepare fish to eat, and lots more.

NetKnots.com Fishing Knots

[http://www.netknots.com/fishing\\_knots/](http://www.netknots.com/fishing_knots/) - Large selection of rope knots for use by boaters, paddlers, scouts, search and rescue, and all outdoor pursuits. The knots illustrated and animated here include the best knots from the three primary knot categories: Loops, Bends, and Hitches.

Fishing Basics: Getting Started Fishing.

New York State Department of Environmental Conservation publication.



# COMMON FISHING KNOTS

Fishing knots allow you to properly tie your line to your hook, lure, and other tackle. The following knots have been developed and tested thoroughly to assure tying ease and strength. Each knot has a specific purpose. Before you learn a new knot, consider the following:

- The right knot is important. You want the strongest knot possible so that you don't lose the fish. A simple overhand knot weakens line by about 50 percent.
- Practice tying knots. Take a length of fishing line, a hook with the point cut off or buried into a cork, and practice. Practice until you can tie each knot correctly.
- Wet knots with saliva as you pull them tight. This prevents damage to the line and allows the knot to pull tight.
- Trim knots closely with a nail clipper. Remember to properly dispose of used fishing line. A good knot, pulled tight, will not come loose. Close trimming prevents the knot from catching snags or weeds. Do not burn the tag end—heat damages the line and knot.
- Knots have their own terminology. The "tag end" (sometimes called the "working end") is the end of the line used to tie the knot. The "standing end" is part of the line coming from your fishing reel.
- Leave a foot or more of the "tag end" of line for tying knots so that you can tie them properly.
- Pull up all ends when tightening the knot. With some knots this will be only the standing end and tag end; with other knots it might be three or four ends.
- Knots are rarely as strong as the line. Knot strength is often expressed in percent, such as the percentage of the strength of the line at which the knot (weaker than the line) will break. As an example, a knot testing 90 percent will break at nine pounds of tension in a line testing ten-pounds.

Did you know that monofilament fishing line can be recycled? It can be melted down and made into underwater fishing structures that provide habitat for fish and other organisms. Berkley and Pure Fishing provide indoor collection bins with a postage paid shipping container. For more information or to receive a bin log onto: [http://www.berkley-fishing.com/about\\_conservation.php#ref\\_4372](http://www.berkley-fishing.com/about_conservation.php#ref_4372) OR <http://www.goingcoastal.org/fishingline.html#1flrec>.



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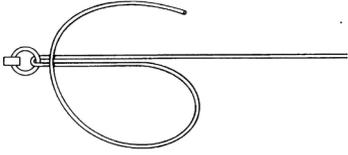
Get Information and Get Going at [TAKEMEFISHING.ORG](http://TAKEMEFISHING.ORG)



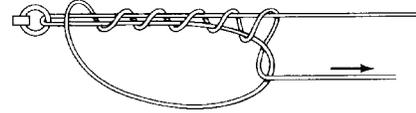
## Uni Knot

**Use:** To tie directly to a hook, lure or rig

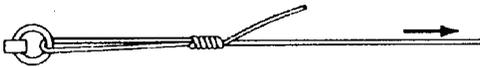
**Step 1:** Run the line through the eye of the hook or lure. Fold the line to make 2 parallel lines. Bring the end of the line back in a circle toward the hook or lure.



**Step 2:** Make 6 turns with the tag end around the double line. Pass the tag end through the circle. Hold the double line at a point where it passes through the eye. Pull the tag end to slightly tighten.



**Step 3:** Pull the standing line. The knot will slide up against the eye.



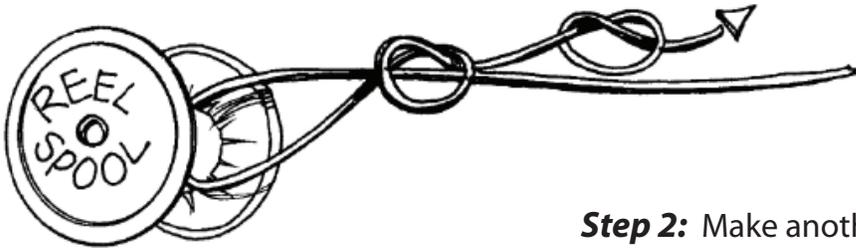
**Step 4:** Pull until the knot is tight. Trim the tag end.



## Arbor Knot

**Use:** To attach line to a fishing reel

**Step 1:** Run the line around the fishing spool or *arbor*, and make an overhand knot around the standing end.

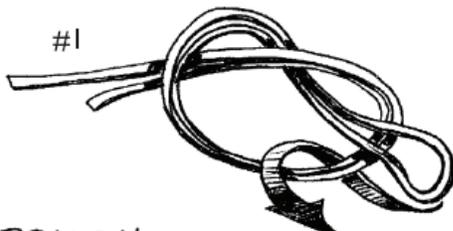


**Step 2:** Make another overhand knot at the end of the tag end. Pull the line tight.

## Double Overhand Knot

**Use:** To make a loop to attach a hook or rig.

**Step 1:** Fold over the tag end and make a knot with the line. Be sure to go through the loop twice.



GO THROUGH  
TWICE

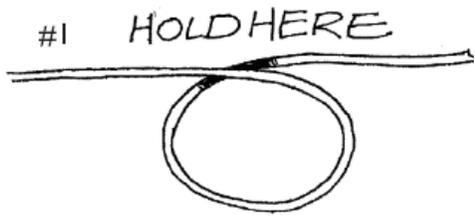
**Step 2:** Pull up carefully on the two ends and the loop.



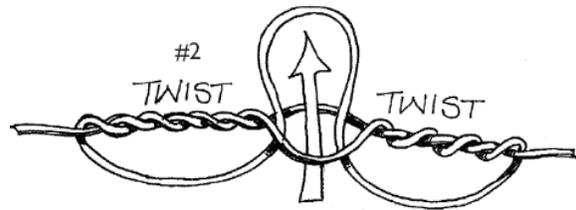
## Dropper Loop

**Use:** To make a loop in the middle of a line to attach a hook or a rig.

**Step 1:** Fold the line back over itself to make a loop.



**Step 2:** Twist the two overlapping line sections four or five times. Pull the loop through this center twist.



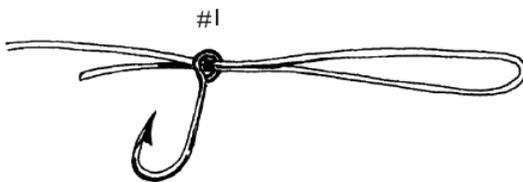
**Step 3:** Pull the line tight.



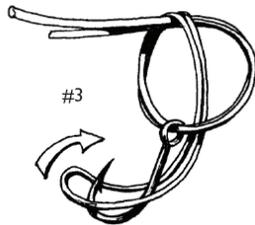
## Palomar Knot

**Use:** To tie directly to a hook, lure or rig.

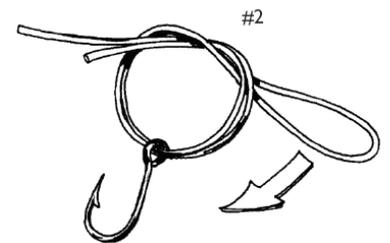
**Step 1:** Double the line and run it through the lure or hook eye.



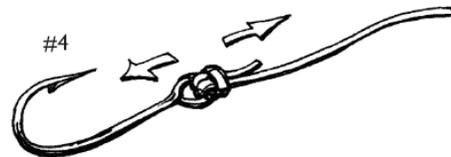
**Step 3:** Take the loop end and place it over the hook or lure.



**Step 2:** Begin to knot the line.



**Step 4:** Pull the loop tight and trim the tag end.



## Improved Clinch Knot

**Use:** To tie directly to a hook, lure or rig.

**Step 1:** Place the tag end through the lure or hook eye. Wrap the tag end 5 or more times around the standing end. Then, run the tag end back through the formed loop.



**Step 2:** Pull the tag end tight and trim.

