

# TEACH and LEARN

## What they will learn/ What you can teach:

**Anchor differences:** The importance of using the right anchor the right way.

**Anchor math:** How to calculate the right scope.

**Anchor models #1 and #2:** How anchors work.

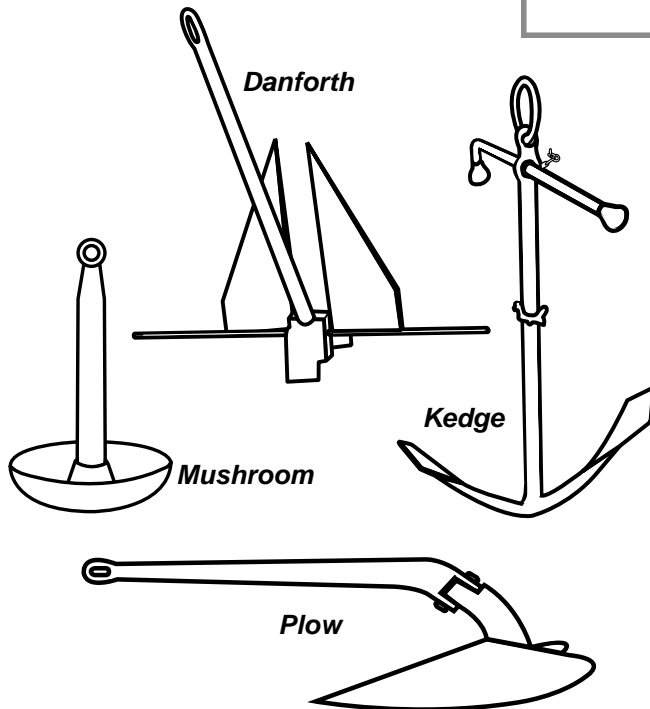
**Bowline tie:** How to tie a bowline.

**Land activity:** The possible range of boat movement when anchored and the importance of proper location when anchoring.

**In-water activities #1 and #2:** The effects of wind and current on an anchored boat.

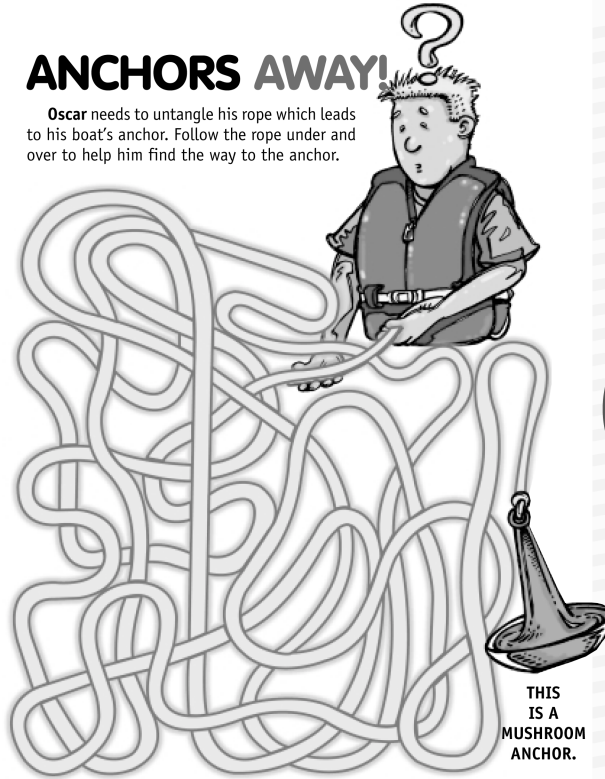
## Activity and Participation:

**Anchor differences:** Use danforth and mushroom anchors to show differences in gripping the bottom. Types of anchors as outline illustrations in PDF FILE format. Danforth, plow, mushroom and kedge anchors. Small descriptive paragraph on benefits of each.



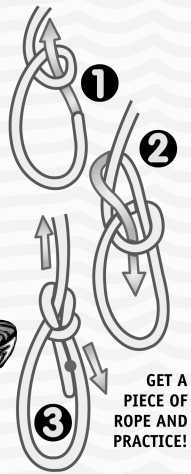
## ANCHORS AWAY!

Oscar needs to untangle his rope which leads to his boat's anchor. Follow the rope under and over to help him find the way to the anchor.



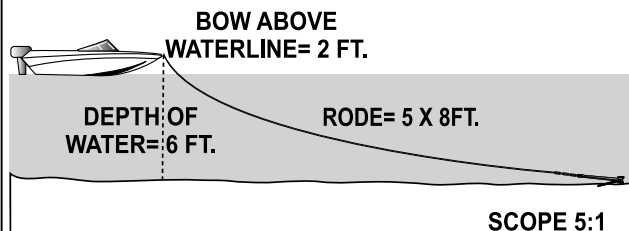
## KNOT KNOW-HOW

Knots are helpful and can even save a life. Knots are used for everything from anchors to sails. The bowline is an easy and useful knot to make a loop at the end of a line.

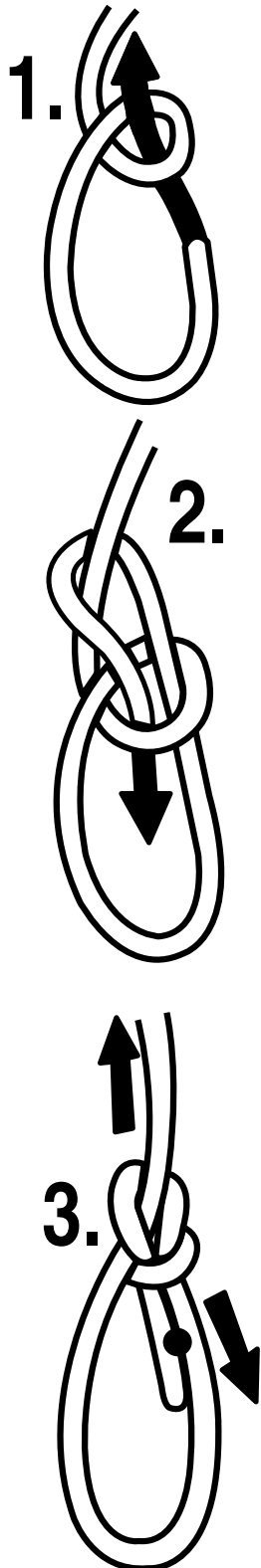


**Anchor math:** Use the PDF FILE supplied and ask the group to figure the scope (ratio of rode length to the vertical distance from the boat's bow to the bottom) indicated in the diagrams shown on the worksheet. One of the problems on the worksheet has been completed as an example of the calculation of scope. (5:1) (6:1) (7:1) (8:1) (9:1) (10:1)

## EXAMPLE:



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**Anchor model #1:** Use a small rubber ball with a piece of velcro loop fabric attached and attaching a line to simulate an anchor and line. Line the bottom of a shoebox with a carpet sample which the velcro will attach to (such as berber finished carpet) or place the sample on a desktop. With a marker, color code the anchor line (rode) to show the recommended length required for anchoring.

**Anchor model #2:** Same as model #1, this version is assembled with a filled aquarium. A fishing sinker replaces the velcro ball.

**Bowline tie:** Have each child in the group practice tying a bowline knot as shown at right and in the activity book with a follow-up application on the mushroom anchor.

**Land activity:** Uses a rope tied to basketball hoop pole (using a bowline) on blacktop (such as a school playground). Using sidewalk chalk, show the radius of movement possible via water currents or wind shifts with an anchored boat and the need to anchor your boat far enough from major corridors of boat traffic. Control via motor and importance of anchoring from the bow can also be shown with this activity.

**In-water activity#1:** Uses a pool-size raft with a rope attached. Rope holder acts as anchor to the raft. A line of kids "create" a current which moves the boat. This meant to illustrate the limited hold anchors afford and the potential effects of winds and currents. As a bonus the same setup can be used to show docking procedures with two participants positioned as ends of a dock.

**In-water activity#2:** Use a milk jug with a screw top cap. Fill to the top with sand and attach an anchor line and the other end attached to an inflated balloon (or an empty milk jug). Balloon represents floating boat. On the basis of the pool depth this is also an opportunity to show how scope is calculated.

## What you will need:

**Anchor differences:** A mushroom and danforth anchors with a six to eight feet length of rope.

**Anchor model #1:** A small rubber ball, velcro loop fabric, line, shoebox, and marker.

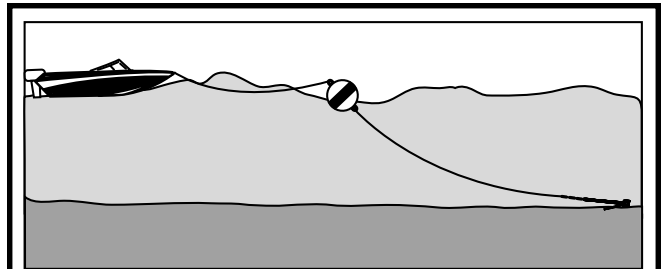
**Anchor model #2:** A small (5 gallon) to medium-sized (10 gallon) aquarium, line, fishing sinker, and marker.

**Bowline tie:** Pieces of rope cut to one foot in length; enough for each child in the group.

**Land activity:** 15-20 feet of rope and sidewalk chalk.

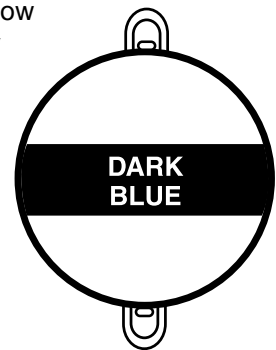
**In-water activity #1:** 15-20 feet of rope and pool-size inflatable raft.

**In-water activity #2:** A milk jug with a screw top cap, rope, sand, and balloon.



## Anchors Away BONUS:

Use this as an opportunity to explain what a mooring buoy is and how it is used in conjunction with an anchor. Use the Anchor model #2 activity with an aquarium to depict the use of a mooring buoy. Using a ping-pong ball attached to the line as the buoy, show how the flotation of the buoy minimizes the vertical pull or load of the anchor. By maintaining a more horizontal load, the boat's bow rides more easily OVER waves rather than being pulled DOWN into the waves.



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