

BOSUN CREW

Instructions: (mates read aloud)

This crew packet contains important information for you to know aboard the Balclutha, and it will help you complete your project. First, read the part about your roles. The mate will assign roles to everyone in the crew. If there are not enough roles for everyone, then the mate may assign 2 people to 1 role. Once the mate assigns the roles, there is no switching, but you are allowed to help each other. Once everyone has a role, read the ENTIRE packet through once, taking turns reading aloud. After you have read through once, you can go back and re-read different sections if you need to.

Roles:

Recorder	While the crew is taking turns reading the packet out loud, the recorder is responsible for writing down important information for the presentation. The recorder should have legible handwriting, and the rest of the crew should be sure to give the recorder enough time to write things down before moving on.
Researcher	The researcher is responsible for finding new information online or in books that will help with the presentation. The researcher should come up with at least three different sources to get more information from. Once the researcher has come up with the three sources, the mate can assign some other crew members to help with the research.
Designer	The designer is responsible for the layout of the poster that will be presented to the class. He or she should come up with a theme for the poster that includes how big (or small) items will be, how many pictures to use, color scheme, and other elements of design.
Artist	The artist is responsible for either picking or drawing the images that will be displayed on the poster during the presentation. The images should fit into the theme determined by the designer.
Writer	The writer is responsible for writing one to two sentences for each image, to be displayed on the poster. These sentences should answer the Presentation Questions and should be coordinated with the images on the poster.
Presenter	The presenter is responsible for coming up with a script for the presentation. The presenter should NOT be the only person who talks during the presentation. This person will decide what can be read off the poster, what should be said that is not on the poster, and what order different people in the crew will speak in.

Presentation Questions:

1. Why is it important for the Captain of a ship to know the depth of the water?
2. What sort of equipment did sailors use historically to find the depth of the water? What do they use now?
3. What might cause the depth of the water change on the same day? What about over the course of a year?

Bosun Crew Responsibilities

Bosuns must be thorough seamen for they are responsible for many types of tasks. Bosuns, along with the Deckhands, are in charge of most tasks done "on deck". These tasks may include: using a leadline, throwing a heaving line, setting hawsers and keeping bell time. Of course, the captain may order additional tasks that require the skills a Bosun possesses.

One of the most important jobs when a ship is coming into port is finding the depth of the water. The Captain knows how far his ship goes under the water, called the draft of the ship, and the water needs to be at least that deep for him to be able to sail or be towed somewhere. If the water is not deep enough, the Captain could run the ship aground. When the bottom has sand or mud on it, running aground is bad because it will delay you and it can be very hard to get the ship unstuck. If the bottom is made of rocks or reef, not only could the ship get stuck, but it could get a hole and start to fill up with water.

Even when a Captain is bringing his ship into familiar waters, he needs to be careful about checking the depth of the water because it can change! Most areas of the world have tides that rise and fall every day. In some places it is only a few feet, but in others like the bay of Fundy it can be as much as 20 feet. This means that if your ship goes 10 feet under the water, and you have 25 feet of water underneath you at high tide in the bay of Fundy, you could still be stuck on the bottom at low tide. Sometimes the sand and mud on the bottom can shift over time as well. These changes are generally less noticeable day to day, but can still be important.

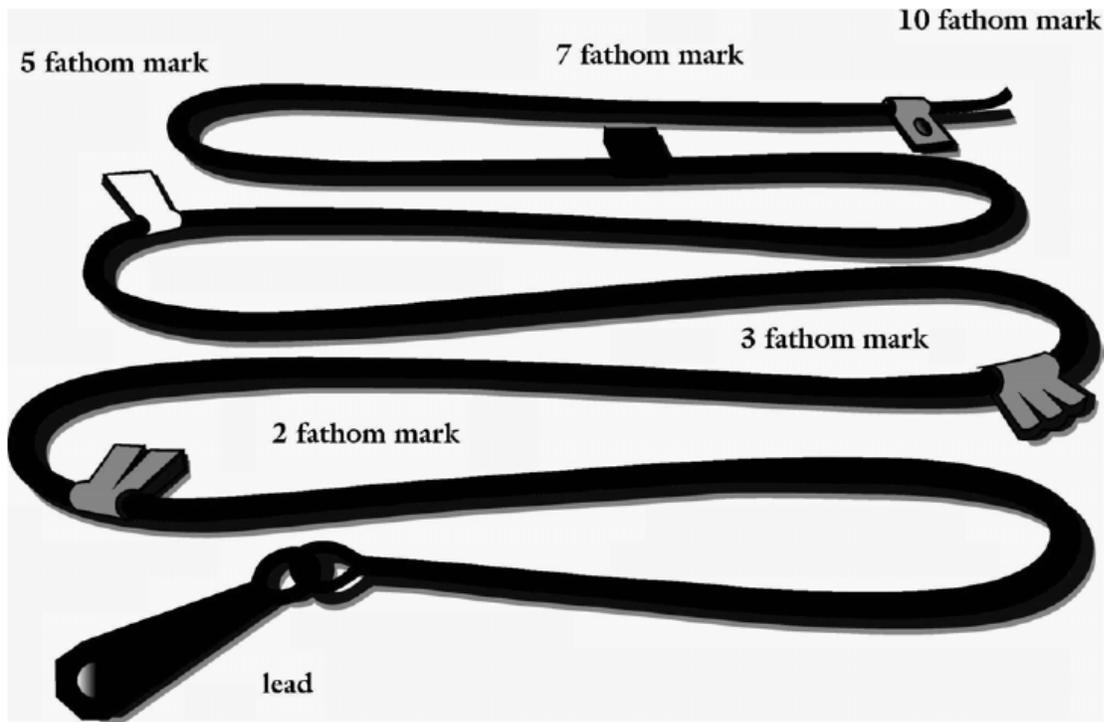
Modern ships have a lot of different tools that they use to determine the depth of the water. The main piece of equipment is called a depth sounder. It is an electronic device that sends out a sound signal from the ship or boat. The sound signal bounces off the bottom and the device measures how long it takes for the sound to return. This is the same way that cetaceans (dolphins and whales) find their way under water, and the way bats find their way through the air. Modern ships also use paper charts and electronic charts to help them tell what is underneath their boat. The charts have soundings on them that were taken within the past few years.

Leadline

A leadline is a tool for finding out the depth of the water and the composition of the ocean floor. It is probably one of the earliest devices used in coastal navigation. A leadline consists of a hemp line and a 7 lb. lead weight. Often the bottom of the weight is cup-shaped. Tallow (a type of animal fat) is pressed into this space to tell a sailor what type of an anchorage he has. If sand is stuck in the tallow he will know to use an anchor designed for sandy anchorages. If it comes up with small rocks stuck in the tallow he knows to use a different type of anchor. If the tallow comes up clean, he will know that he is above rocks.

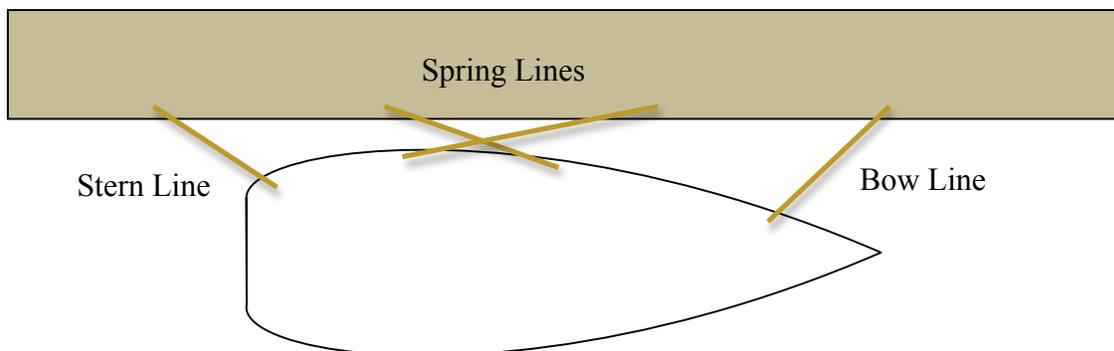
The average leadline is about 25 fathoms long. The line is marked with fathom marks (one fathom equals 6 feet). Fathom marks vary in size, shape, and color. The 2-fathom mark is 2 strips of leather. The 3-fathom mark is 3 strips of leather, and a 10-fathom mark is a square piece of leather with a round hole cut out from the middle.

Leadline



Hawsers

Hawsers are large, thick lines used for either securing a vessel to the dock or towing another vessel. Hawsers means 'thick rope' and so sailors give hawsers more specific names depending on the exact job they have. Hawsers also vary in length depending on which part of the ship they are meant to tie to the dock. Typically there are two very long hawsers; one set at the bow, called the bow line, and one at the stern, called the stern line. A hawser set from the middle of the ship is called either a breast line or a spring line, and usually does not need to be as long as the bow and stern lines. A typical configuration is to have two spring lines that cross each other, just like the diagram below. It is one of the jobs of the deckhands to prepare the correct lines in the correct places when a ship comes into port. Once the lines are distributed, the crew will get ready to send the lines ashore. Since the hawsers are large, they are also heavy and hard to throw. For this reason, sailors use heaving lines to get the hawsers across to shore.



Heaving Line

A Heaving line is a long, thin line with a heavy knot at the end called a monkey's fist. This line is used for throwing to the dock or another boat when you need to pass a line across that is too heavy to throw. The first step to throwing a heaving line is to hitch the bitter end of the heaving line to a stationary part of the vessel. This will ensure that both ends of the line are not thrown over and the heaving line lost at sea. Once the line is secure, two neat coils are made in a clockwise manner. NEVER WRAP THE LINE AROUND YOUR ELBOW OR OTHER BODY PART. Other lads can be sent to the shore in order to catch the heaving line as it hits the dock. The person throwing the line holds one coil in each hand with the monkey's fist coil in their throwing hand. Move to the closest point to the dock and heave the line in a smooth arcing motion towards the dock WITH BOTH HANDS. Once the heaving line reaches the other side, untie the bitter end of the heaving line and bend it to the eye of the hawser using a heaving line bend or bowline (not a square knot). At this point, part of the crew must go ashore to haul and part of the crew stays aboard to slack on the hawser. Once the eye splice reaches the pier, untie the heaving line from the eye splice and secure it to the bollard or cleat. On board the crew will haul any slack from the line (leaving enough slack in the line to allow for the changing tides) and, using a figure-eight pattern, secure the bitter end of the hawser to the vessel.

Heaving line



VOCABULARY

Aft –the direction towards the stern of a vessel

Bell time -time kept by ringing a series of bells every half hour

Bend -attach or tie

Bitter end -the inboard end of a line

Bollard -single or double steel posts secured to the pier and used for mooring vessels

Bow -the forward end of the vessel

Breast line -a mooring line at a 90 degree angle to the keel, set abreast of the vessel

Cleat -a piece of wood or metal with 2 horns used for belaying (tying) lines

Ensign -a national, maritime, or nautical flag

Eye or Eyesplice (on a line) –a permanent loop at the end of a line

Foredeck -the raised deck at the bow of the vessel

Forward - direction towards the bow of a ship

Hawser -a line with a diameter of 2 1/2 inches or more

Heaving line -a light weight "messenger" line with a monkey's fist knot at the end

Lead line -consists of a hemp line, a 7 lb lead weight at the end and fathom marks used in finding the depth of the water

Line station -where a line is secure to the vessel

Spring line -a mooring line at less than a 90 degree angle to the keel

Stern -the back end, of a vessel