

LET'S SPAR

A New Mast for a Ship

Purpose of This Activity: To understand the difficult work involved in fashioning ships' masts and to understand the important role of western Washington forests in the seafaring trade.

Beginning in the late 1700s, Spanish, French and British explorers came to the Northwest seeking new territories. They also searched for a Northwest Passage thought to connect the Atlantic to the Pacific across the North American Continent. Such a passage did not exist but the explorations led to the opening of the sea otter fur trade with China. Sea captains from England, Russia and the east coast of North America came to trade trinkets and metal with coastal Indians for otter pelts.

The seafarers' spars and masts used to support the sails were often cracked or broken in the course of their rough trade. The forests provided a ready supply for replacements.

Imagine you are members of a crew on a sailing ship approaching Washington's coast in the late 1700s when suddenly a severe storm cracks your ship's mast in two. Your job is to search for a tree that can be used to replace the broken mast. You will need a strong, straight tree at least 50 feet in height and 30 inches in diameter. If a camera is available, your teacher might suggest that you bring it along to document your search.

Investigate trees on your school grounds or, if none exist, investigate a utility or flag pole. Finding the approximate height of a tree can be very simple. You'll need two people. One person (the one closest to 5' tall) stands next to the tree. The second person walks back far enough so that when he or she makes a fist and holds it out in front, with arm out-stretched, the first person by the tree appears to be the same size as the fist.

In the line of sight, the fist appears to be next to the tree. To measure the tree's height, put one fist on top of the other until level with the top of the tree. Count the number of fists, and multiply by 5. This will give you the approximate height of the tree.

To **find the diameter** of a tree, take a string and wrap it around the tree at chest height, which is approximately four feet high. Put a knot in the string where it meets with the end. Then, with a ruler, measure the string to the knot in inches and divide by 3.14 to get the diameter.

Was your search successful? What was the height and diameter of the tree (or pole) that came closest to being a good "mast?"

After you have searched for and found a suitable tree, return to the classroom and **make a series of posters** or drawings that show what you would have to do to transform a tree in the forest to a mast on a ship. (See if any research materials in your library have this information.)

If not, use your imagination. Consider the following (imagining the year is 1794): How would you cut down the tree? Remove the branches and bark? Transport the log to the shore? Float it to the ship? Lift it on board, raise it upright and secure it? Provide a short, written explanation to go with each drawing. Finally, give a summary of your “mast” quest. If a camera was used, include the photographs of your search.

