


Navigation

Introduction: Navigation is the art and science of finding where you are and how you can safely get to your next destination. Charts are essential to navigation as they help you identify landmarks, find depths, measure distances, avoid hazards, and find your way.

Using A Chart

1. Look at Chart # 102 that has Boothbay Harbor in the center.
2. You left from the Department of Marine Resources, which is on McKown Point. At this location, an old granite tower serves as a daymarker. Find McKown Point on the chart.
3. Name two islands that you passed on your way to Burnt Island. _____ & _____
4. Locate Burnt Island. Draw the symbol for the lighthouse in the box. 
5. What other information does the chart tell you about this lighthouse? _____
 - a) Fl R 6s means _____
6. In order for mariners to safely arrive at Burnt Island, they must follow either of the white sectors to this lighthouse. Locate the two white sectors on the chart.
7. What other lighthouses can you see from Burnt Island? _____ & _____
8. In order to find your compass bearings, locate a compass rose on the chart.
(North = 0 degrees, East = 90 degrees, South = 180 degrees, West = 270 degrees.)
 - a) What is the name of the island to the south of Burnt Island? _____
How do you suppose it got its name? _____
 - b) What is the large island to the west of Burnt Island? _____
 - c) What is the small island to the west of Burnt Island? _____
 - d) What is the island to the north of Burnt Island? _____
9. What is the mainland point to the east of Burnt Island? _____
10. What is the point at the end of Linekin Neck called? _____
11. Each spot on earth has a unique address described by its latitude and longitude. Latitude is measured from the equator to the poles, and longitude is measured east or west from Greenwich, England. Lines of latitude and longitude are present on a chart and indicated by straight black lines running north to south and east to west. Locate the closest ones to Burnt Island and read the degrees and minutes along the margins of the chart.
Latitude = _____ and Longitude = _____

Using dividers and the scale in the margin, Burnt Island's exact address is: 43 49.50 N, 69 38.42 W

Charting Your Course

Your boat is anchored in the tiny harbor of Damariscove Island. It is time to leave this 1.7 mile long island that was one of the earliest settlements in the New World. Humphrey Damarill set up a major trade center here in 1608 welcoming ships from European ports to trade for fish and furs.

1. As you pull anchor and leave Damariscove Island, the old Life Saving Station will be to your starboard side (right) and a lookout tower on the peninsula to your port (left) side. This station was abandoned in 1959 when the Coast Guard moved their operation to the mainland. It is now a private summer home.
2. Notice the swells breaking on your starboard. Be sure to stay clear of these ledges called The Motions.
3. Steer a compass course to the red-and-white vertically striped buoy which marks safe water. It is a gong buoy that operates by tidal motion and wave action.
 - a) What is the compass bearing from Damariscove Harbor to the red-and-white buoy? _____
4. On your chart, locate the green bell buoy "1C" off the southern tip of Southport Island.
 - a) What is the bearing from the red-and-white buoy to green buoy # 1C? _____
 - b) What is the distance in miles? _____ Use the tool called the dividers to determine the distance between these two points. Find the scale of miles on the chart to find your answer.
5. As you approach the green buoy, you will notice the lighthouse on the tiny islets called the Cuckolds. This station started out as a fog signal in 1892, later becoming a light station in 1907. Two families once lived at this light station, but the house was torn down in 1977 leaving only the tower.
 - a) What is the characteristic of this lighthouse? _____
6. Keep the Cuckolds to your port side as you navigate to the flashing red buoy off from Squirrel Island.
 - a) Locate the red triangular ledge marker as you approach Squirrel Island.
 - b) What is the number of the flashing red buoy off from Squirrel Island? _____
7. As you continue towards the Burnt Island Lighthouse, you will notice a buoy that has horizontal green and red bands. It marks a fork in the channel allowing you to pass on either side of Burnt Island. The top color indicates the preferred channel.
 - a) The top band is _____, so pass the buoy and the lighthouse on your _____ side.
8. The next navigational buoy is off from Tumbler Island. What is its color and number? _____ Notice the tiny solar panel which provides electricity for the light.
9. Set your compass on 55. What is the number & characteristic of this last lighted buoy? _____
10. Good luck at finding an empty mooring to rent for the night. Enjoy your stay in Boothbay Harbor!

Using A Compass

1. Position yourself at the granite bench closest to the flagpole.
2. For an accurate reading, do not allow your compass to be near metal or another compass.
3. Determining the location from a given compass bearing.
 - a) Turn the white dial so that the given reading is lined up with the arrow on the fluorescent green base.
 - b) The red floating arrow always points north.
 - c) Line up the red floating arrow so that it is within the red arrow outline on the base.
 - d) Sight in where the base arrow is pointing for an object or your direction of travel.
4. What land masses are at the following compass readings:
 - a) 120 degrees _____
 - b) 182 degrees _____
 - c) 0 degrees _____
 - d) 225 degrees _____
5. Determining the compass bearing to a given location.
 - a) Point the arrow on the fluorescent green base to the desired location.
 - b) Turn the white compass dial until the red floating arrow lines up with the red arrow outline on the base.
 - c) Read the compass bearing lined up with the arrow on the fluorescent green base.
8. What are the compass readings to the following locations:
 - a) Ram Island Lighthouse _____
 - b) Cuckolds Lighthouse _____
 - c) Squirrel Island Beach _____
 - d) Spruce Point Inn _____
 - e) Boothbay Harbor _____