

 Have you ever heard of navigation stones? In the days before Christopher Columbus, sailors did not use compasses to help them follow ocean routes. They found the direction to sail by using very simple tools—rocks. These black rocks were first found on the continent of Asia. Unlike most rocks, they displayed a unique characteristic that people had never seen. People learned that they were natural magnets that would stick to metal. Because the amazing rocks helped lead explorers to faraway places and back home again, they became known as lodestones (“lode” means “lead”).

 Some sailors would hang lodestones from strings to serve as compasses. Others would carve the stones into spoon shapes. These indicators had handles that pointed south when laid flat on smooth surfaces. With these lodestones, sailors could now reliably determine all four major directions: north, east, south, and west.

 Lodestones point north because the Earth itself is a giant magnet. One end of the lodestone is attracted to Earth’s North Pole. This end is then referred to as the lodestone’s north pole. The other end of the lodestone aligns with Earth’s South Pole. This end becomes known as its south pole. Early explorers would first follow familiar routes and watch the direction their lodestones moved. This allowed them to correctly mark the lodestones’ poles. Having done this, they could then reliably use the lodestones to guide them through unfamiliar ocean routes and back home again.

Lodestones are made up mainly of a mineral called magnetite. You can buy magnetite in a science museum if you cannot find it lying around outside. If you do get one of these rocks, tie it to a string. Take a walk and see if the rock swings when you change directions. Map out the directions to your school or house. Now, imagine being out in the open sea with no land in sight. There are no maps to guide you to the new lands far across the ocean. The lodestone would be your most reliable source of direction, especially when the sun was not shining. Could you find your way using this natural magnet as your only navigational tool?

1. The difference between a piece of lodestone and a compass is that the lodestone

F is a natural material

G is small and compact

H uses Earth’s magnetic pull

J can be used to determine all four directions

2. When magnetite was discovered, it was considered “amazing” mainly because of its

A weight

B abundance

C unusual color

D scientific properties

3. Who would most likely need a lodestone?

F a golfer looking for a lost golf ball

G a young student walking to school

H a hiker walking through an unfamiliar forest

J a competitive swimmer racing across a lake