

EXPLORATION CLUES: FINDING LONGITUDE & LATITUDE

1000: Many people believe the Vi-kings discovered America long before Columbus did. We know that Eric the Red got as far as what large island? (70°N, 40°W)

1492: Christopher Columbus reached the New World—now called the Americas—by sailing west across the Atlantic Ocean in search of a new route to Asia. The first island he landed on is in what island chain? (24°N, 74°W)

1513: The first European to see the Pacific Ocean was Vasco de Balboa. What country did he cross to see it? (8°N, 80°W)

1773: Captain James Cook sailed in search of a "southern continent." He never saw it, but while searching, he became the first person to cross what major latitude line? (66°S)

1786: Ben Franklin published the first map of the Gulf Stream to help sailors cross the ocean. The Gulf Stream originates in what body of water? (25°N, 90°W)

1831: Starting from England, naturalist Charles Darwin went on a world-wide research voyage aboard the HMS Beagle. He discovered fossil seashells 12,000 feet high in what mountain range? (33°S, 72°W)

1840: Charles Wilkes of the U.S. Navy proved the existence of a seventh continent by leading an expedition there. What is the seventh continent? (70°S, 135°E)

1866: The first successful transatlantic cable was laid across the ocean floor. Depth charts developed by Matthew Maury helped people know where to lay the cable. It stretched from Ireland to what Canadian province? (48°N, 56°W)

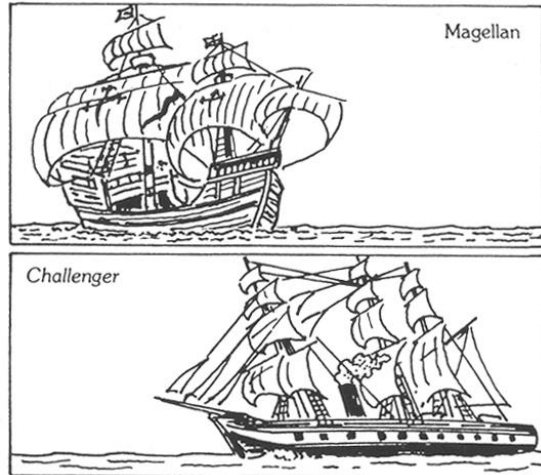
1872: Anton Dohrn founded the first marine biological station. This research laboratory is in what country? (42°N, 14°E)

1892: Louis Boutan took the first underwater photographs. What country was Boutan from? (45°N, 4°E)

1905: Scripps Institution of Oceanography was founded. Many ocean research scientists work here. What state is Scripps in? (35°N, 120°W)

1925: A research ship named the *Meteor* crisscrossed the South Atlantic Ocean to survey it with echo sounding. What country did the *Meteor* belong to? (50°N, 10°E)

1930: Woods Hole Oceanographic Institute was founded. Many ocean research scientists work here. What state is Woods Hole in? (43°N, 71°W)



1934: William Beebe descended a half-mile into the ocean depths in a steel ball called a bathysphere. This deep-sea dive took place near what island? (32°N, 65°W)

1943: Jacques Cousteau developed the aqualung. The aqualung enables divers to carry their own air supply underwater. In what sea was this new invention tested? (40°N, 5°E)

1960: Jacques Piccard descended to the deepest known spot in the ocean in a submarinelike ship called the Trieste. This spot is nearly seven miles below the surface in the Mariana Trench. It's located at the bottom of the ocean near what island? (14°N, 145°E)

1969: Thor Heyerdahl sailed across the Atlantic Ocean in a reed raft called *Ra II* to show that sailors from ancient Africa also could have done so. What African country did he sail from? (33°N, 7°W)

1970: Sylvia Earle led the first all-woman team of U.S. aquanauts. (Aquanauts are divers who live in an undersea laboratory and study the ocean while scientists on the surface study the divers' ability to live and work underwater.) Earle's team spent two weeks in the underwater station called Tektite *II* near a group of is-lands in what sea? (15°N, 65°W)

1974: Robert Ballard explored a volcanic mid-ocean ridge in a small submersible called Alvin. He saw lava oozing from an area where two plates of the Earth's crust are spreading apart. In which ocean was this discovery made? (38°N, 32°W)

1975: The United States established the first National Marine Sanctuary to protect the wreck of a Civil War ship that sank in an 1862 storm. The ship, called the Monitor, was discovered off the barrier islands of what state? (36°N, 76°W)

1977: Robert Ballard explored a mid-ocean ridge in a small submersible called Alvin and discovered an unusual community in the dark ocean depths. This community lives where heat from the Earth's core is released through vents. Giant tube worms and other strange creatures are part of this community. Near what group of is-lands was the community first discovered? (1°S, 91°W)

1979: Sylvia Earle dove to the ocean floor inside an armored suit called a Jim suit. The Jim suit is like a one-person submersible. Earle went to a depth of 1250 *feet*—the deepest any person has ever been without being connected to a boat with a line. Near what islands did she make this historic dive? (20°N, 155°W)

1985: An undersea robot called Argo located the wreck of the Titanic at the bottom of the ocean. (The Titanic was a luxury ocean liner that hit an iceberg and sank in 1912.) In what ocean was the wreck found? (42°N, 50°W)

1985: A treasure hunter located millions of dollars' worth of silver, gold, and gems from the wreck of a Spanish galleon. The ship sank in a 1622 storm off the coast of what state? (25°N, 82°W)