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| **Glossary**  |  |
| **Chapter 1**  |  |
| **Aqua**  | A NASA satellite designed to obtain data on Earth’s water cycle.  |
| **cartographer**  | A person who makes maps and charts.  |
| **celestial navigation**  | The technique of finding one’s position on Earth by reference to the apparent positions of stars, planets, the moon, and the sun.  |
| **Challenger expedition**  | The first wholly scientific oceanographic expedition, 1872-76. Named for the steam corvette used in the voyage  |
| **chart**  | A map that depicts mostly water and the adjoining land areas.  |
| **chronometer**  | A very consistent clock. It doesn’t need to tell accurate time, but its rate of gain or loss must be constant and known exactly so that accurate time may be calculated.  |
| **Columbus, Christopher**  | (1451-1506) Italian explorer in the service of Spain who discovered islands in the Caribbean in 1492. Although traditionally credited as the discoverer of America, he never actually sighted the North American continent.  |
| **compass**  | An instrument for showing direction by means of a magnetic needle swinging freely on a pivot and pointing to magnetic north.  |
| **Cook, James**  | (1728-1779) Officer in the British Royal Navy who led the first European voyages of scientific discovery.  |
| **Darwin, Charles Robert**  | (1809-1882) An English biologist and the co-discoverer (with Alfred Russell Wallace) of evolution by natural selection.  |
| **echo sounder**  | A device that reflects sound off the ocean bottom to sense water depth. Its accuracy is affected by the variability of the speed of sound through water.  |
| **Eratosthenes of Cyrene**  | (276-192 B.C.) Greek scholar and librarian at Alexandria who first calculated the circumference of the Earth about 230 b.c.  |
| **experiment**  | A test that simplifies observation in nature or in the laboratory by manipulating or controlling the conditions under which observations are made.  |
| **Franklin, Benjamin**  | (1706-1790) Published the first chart of an ocean current in 1769.  |
| **Global Positioning System (GPS)**  | Satellite-based navigation system that provides a geographical position—longitude and latitude—accurate to less than 1 meter.  |
| **Harrison, John**  | (1693-1776) British clockmaker who invented the modern chronometer in 1760.  |
| **hypothesis**  | A speculation about the natural world that may be verified or disproved by observation and experiment.  |
| **Jason-1**  | A follow-on satellite mission to TOPEX/Poseidon.  |
| **latitude**  | Regularly spaced imaginary lines on the Earth's surface running parallel to the equator.  |
| **law**  | A large construct explaining events in nature that have been observed to occur with unvarying uniformity under the same conditions.  |
| **Library of Alexandria**  | The greatest collection of writings in the ancient world, founded in the third century b.c. by Alexander the Great. Could be considered the first university.  |
| **longitude**  | Regularly spaced imaginary lines on the Earth's surface running north and south and converging at the poles.  |
| **Magellan, Ferdinand**  | (c. 1480-1521) Portuguese navigator in the service of Spain who led the first expedition to circumnavigate the Earth, 1519-22. He was killed in the Philippines.  |
| **Mahan, Alfred Thayer**  | An American naval officier and strategist; the influential author of The Influence of Sea Power upon History, 1660–1783.  |
| **marine science**  | The process (or result) of applying the scientific method to the ocean, its surroundings, and the life forms within it. Also called oceanography or oceanology.  |
| **Maury, Matthew**  | (1806-1873) "Father" of physical oceanography. Probably the first person to undertake the systematic study of the ocean as a full-time occupation, and probably the first to understand the global interlocking of currents, wind flow, and weather.  |
| **Meteor expedition**  | German Atlantic expedition begun in 1925; the first to use an echo sounder and other modern optical and electronic instrumentation.  |
| **ocean**  | (1) The great body of saline water that covers 70.78% of the surface of the Earth. (2) One of its primary subdivisions, bounded by continents, the equator, and other imaginary lines.  |
| **oceanography**  | The science of the ocean. See also marine science.  |
| **oceanus**  | Latin form of okeanos, the Greek name for the "ocean river" past Gibraltar.  |
| **Polynesians**  | Inhabitants of the Pacific islands that lie within a triangle fromed by Hawaii, New Zealand, and Easter Island.  |
| **Prince Henry the Navigator**  | Established a center at Sagres, Portugal, for the study of marine science and navigation in the mid-1450s.  |
| **science**  | A systematic way of asking questions about the natural world and testing the answers to those questions.  |
| **scientific method**  | The orderly process by which theories explaining the operation of the natural world are verified or rejected.  |
| **sea power**  | The means by which a nation extends its military capacity onto the ocean.  |
| **SEASTAR**  | Satellite capable of measuring the distribution of chlorophyll at the ocean surface, a measure of marine productivity.  |
| **sounding**  | Measurement of the depth of a body of water.  |
| **theory**  | A general explanation of a characteristic of nature consistently supported by observation or experiment.  |
| **TOPEX/Poseidon**  | Joint French–U.S. satellite carrying radars that can determine the height of the sea surface with unprecedented accuracy. Other experiments in this five-year program included sensing water vapor over the ocean, determining the precise location of ocean currents, and determining wind speed and direction.  |
| **United States Exploring Expedition**  | The first U.S. oceanographic research voyage, launched in 1838.  |
| **Vikings**  | Seafaring Scandinavian raiders who ravaged the coasts of Europe around A.D. 780–1070.  |
| **voyaging**  | Traveling (usually by sea) with a specific purpose.  |
| **world ocean**  | The great body of saline water that covers 70.78% of the Earth's surface.  |