# Science 8

Text: Discovering Science 8

Unit 1: Water Systems on Earth

Chapter Two, "Oceans Control the Water Cycle "

Note:

Students are encourage to review all material as part of an appropriate study schedule. The textbook, Discovering Science 8 is the main source of information. All other material are supplementary.

Terms to Know:

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| **Ocean Basin** | **Pangea** | **Tectonic Plates** | **Tectonic Movement** | **Continental Shelf** |
| **Continental Slope** | **Abyssal Plan** | **Mid-Atlantic Ridge** | **Ocean Current** | **Coriolis Effect** |
| **Density Current** | **Thermocline** | **Upwelling** | **Bays** | **Breaker** |
| **Crest** | **Neap Tide** | **Spring Tide** | **Swell** | **Tidal Range** |
| **Tide** | **Trough** | **Tsunami** | **Wavelength** | **Headlands** |

1.) Describe processes that lead to the development of ocean basins and continental drainage systems.
   - volcanic action, plate tectonics, erosion and glaciation.

2.) Discuss technologies that have assisted scientists to research ocean basins.
   - sonar, satellites, core sampling, underwater photography/ videography, deep sea submersibles, and diving.

3.) Provide examples of how technologies, used to investigate the ocean floor, have improved over time.
   - diving vs. submersibles
   - wire line depth probes vs. sonar

4.) Using a diagram, illustrate a typical continental margin from coastal shoreline to mid-ocean ridge.
   - continental shelf, continental slope, abyssal plain, and mid-ocean ridge.

5.) Describe the interactions of the ocean currents, winds, and regional climates.

6.) Provide examples of public and private Canadian institutions that support scientific and technological research involving the oceans.
- Environment Canada, Federal Fisheries, Ocean Sciences and Centre, Centre for Cold Ocean Research C-CORE at Memorial University.

7.) Identify the two types of ocean currents.
- surface currents and deep water currents.

8.) Identify and explain how temperature differences create deep water currents.

9.) Identify and explain how wind action as a cause of surface currents.

10.) Identify and explain four factors which influence the formation and movement of ocean currents.
- salinity,
- Earth's spin (Coriolis effect)
- shape of continents
- temperature

11.) Identify local ocean currents.
- Labrador current (cold), Gulf Stream (warm), North Atlantic Current (warm)

12.) Explain and illustrate how tides are generated by the gravitational pull of the moon.

13.) Distinguish between spring tides and neap tides.

14.) Describe the processes of erosion and deposition in relation to the interaction of waves and tides with shorelines.

15.) Identify that wave and tide interactions with shorelines depend on:
- shape of the shoreline
- slope of the shoreline
- type of rock material
- wave energy

16.) Explain how wave action and water flow play significant roles in on the processes of erosion and deposition.
- beaches, shoal , sand bars, sea caves, sea arches, sea stacks, etc.