

**Note-taking  
Worksheet****Oceans****Section 1 Ocean Water**

- A. \_\_\_\_\_ are important because they provide homes to many organisms; provide resources such as food, salt, transportation; provide water for precipitation; and provide oxygen produced by ocean organisms.
- B. Billions of years ago oceans formed from volcanic \_\_\_\_\_ that collected in the atmosphere and then fell as torrential rains.
- C. Ocean water contains many \_\_\_\_\_ substances that make it taste salty.
- \_\_\_\_\_—measure of the amount of salts dissolved in sea water
  - \_\_\_\_\_ enter the ocean from the atmosphere.
    - \_\_\_\_\_—enters from the atmosphere and **photosynthesis** of ocean organisms
    - \_\_\_\_\_—enters from the atmosphere and from respiration of ocean organisms; forms carbonic acid, which controls ocean acidity
    - \_\_\_\_\_—provides nutrients for plants and is used in plant and animal tissues
- D. Water temperature and pressure \_\_\_\_\_ with depth.
- Three layers of water \_\_\_\_\_
    - Warm \_\_\_\_\_ layer
    - \_\_\_\_\_—begins at about 200 m with temperatures rapidly dropping with increasing depth
    - \_\_\_\_\_ layer—extremely cold
  - Pressure or force per unit area increases about 1 atmosphere for every \_\_\_\_\_ increase in depth.

**Section 2 Ocean Currents and Climate**

- A. \_\_\_\_\_—wind that moves only the upper few hundred meters of water
- \_\_\_\_\_—100-km-wide current of warm water flowing east across the North Atlantic Ocean

## Note-taking Worksheet (continued)

2. Surface currents influence \_\_\_\_\_.
    - a. Warm currents keep northern climates \_\_\_\_\_.
    - b. Cold currents \_\_\_\_\_ excessive summer warming.
- B.** \_\_\_\_\_—forms when more dense sea water sinks beneath less dense water
1. North of Iceland a density current flows along the ocean floor toward the Atlantic Ocean and spreads into the \_\_\_\_\_ and \_\_\_\_\_ oceans; warm Gulf Stream water replaces this cold current.
  2. Density currents help \_\_\_\_\_ global rainfall patterns and temperatures.
- C.** \_\_\_\_\_—current bringing deep, cold water to the surface; occurs where winds blow surface water away from land
1. Cold water brings \_\_\_\_\_ to enrich fishing grounds.
  2. Affects \_\_\_\_\_ of coastal areas

### Section 3 Waves

- A.** Formed by wind, a \_\_\_\_\_ is a rhythmic movement that carries energy through water.
1. Waves have \_\_\_\_\_.
    - a. \_\_\_\_\_—highest point of wave
    - b. \_\_\_\_\_—lowest point of wave
    - c. Vertical distance between crest and trough is \_\_\_\_\_.
    - d. \_\_\_\_\_—horizontal distance between crests or troughs
  2. Wave \_\_\_\_\_—water particles do not move forward unless the wave is breaking on shore.
  3. \_\_\_\_\_—collapsing waves near the shore caused by the wave bottom being slowed by friction with the ocean floor
- B.** \_\_\_\_\_—rising and falling of sea level caused by gravity from Earth, Moon, and Sun
1. \_\_\_\_\_—high tides higher and low tides lower than normal due to Moon, Earth, and Sun lining up
  2. \_\_\_\_\_—high tides lower and low tides higher than normal due to Sun, Moon, and Earth forming a right angle
- C.** Wave \_\_\_\_\_—wears away both rocky shores and beaches

**Note-taking Worksheet** (continued)**Section 4 Life in the Oceans**

- A. Types of life are classified by \_\_\_\_\_ organisms live.
1. Tiny marine animals that float in the upper ocean layers are called \_\_\_\_\_.
  2. \_\_\_\_\_—animals that swim rather than drift in the currents
  3. \_\_\_\_\_—can burrow in sediments, walk or swim on the bottom, or be attached to the seafloor
- B. Ocean \_\_\_\_\_—community of organisms and nonliving factors such as sunlight, water, nutrients, sediment, and gases
1. \_\_\_\_\_—organisms that make their own food through photosynthesis or **chemosynthesis**
  2. \_\_\_\_\_—eat producers to get energy
  3. \_\_\_\_\_—break down materials and release them back into the ecosystem
  4. Energy is transferred from producers to consumers and decomposers through \_\_\_\_\_ and complex food webs.
- C. Ocean nutrients—recycled through the ecosystem, particularly in \_\_\_\_\_