

Lesson 5: ANSWERS

Oceanography with Lab

The Branches of Oceanography

Complete the chart by listing the four branches of oceanography and describing what is studied for each branch.

Branch	Topics Studied
Geological	Shape/geological features of the ocean floor
Chemical	Seawater composition and related biochemical cycles
Physical	Properties of temperature, density, pressure of seawater; wave characteristics and forces that cause tides
Marine (biological)	Plants and animals of the sea, including life cycles and food

1. Under which branch would one study the ocean floor?
Geological
2. Under which branch would one study marine organisms?
Marine
3. Under which branch would one study the water cycle?
Chemical
4. Under which branch would one study salinity?
Physical
5. Under which branch would one study the Coriolis Effect?
Physical
6. Under which branch would one study plate tectonics?
Geological

Lesson 5: **ANSWERS** (cont.)

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The Origin of the World Ocean (*answers found in lesson 1 link 6 for Evolutionary View [EV] and link 7 for Young Earth View [YEV]*)

Answer each question from both a young earth and an evolutionary view.

1. How old is the Earth?
YEV – about 6,000 years
EV – about 4.6 billion years
2. Where did the Earth's surface water come from?
YEV – God created the atmosphere on the 2nd day and the ocean on the 3rd day of creation thousands of years ago
EV – water existed as vapor because Earth was too hot for water to collect. When Earth began to cool, it rained for 20 million years and collected in basins.
3. Are the ocean and present atmosphere "leftovers" from the original atmosphere?
YEV – No
EV – Yes
4. How might the Earth be different if an ocean had not formed on its surface?
Answers will vary depending on which aspects a student concentrates on, but water is necessary for most life processes on Earth.

The Ocean Basins

1. What percentage of the Earth is covered by ocean?
71% of surface is covered by water; 97% of that makes up the ocean
2. What are the Earth's basins?
Regions below sea level that hold majority of water
3. Name the Earth's oceans.
Pacific, Atlantic, Arctic, Indian (in 2000, Southern was recognized as newest).
4. Which is the largest ocean?
Pacific
5. What is the difference between an ocean and a sea?
Oceans are vast bodies of salt water that exist on Earth's surface; seas are smaller and partially enclosed by land and may not be connected to an ocean

Lesson 5: **ANSWERS** (cont.)

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6. What is the deepest point in the ocean? In which ocean does it lie?

Challenger Deep in the Mariana Trench; Pacific Ocean

Complete the chart below by defining and giving an example of each term.

	Definition	Example
Strait	Narrow channels of the ocean that connect 2 larger bodies of water	(answers will vary) Strait of Gibraltar
Gulf	Large inlet from the ocean into a landmass	(answers will vary) Gulf of Mexico
Sea	Large body of saline water; smaller than an ocean; typically partially enclosed by land	(answers will vary) Baltic Sea
Ocean	Vast body of salt water; covers almost $\frac{3}{4}$ of the Earth's surface	(answers will vary) Atlantic Ocean