Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 5 Oceanography**

**Vocabulary (Ch. 14)**

Define on a separate sheet of paper

* Oceanography
* Bathymetry
* Sonar
* Submersible
* Continental margin
* Continental shelf
* Mid ocean ridge
* Seafloor spreading

**Websites:**

1. <http://www.reefnews.com/reefnews/infopage/oceans/oceans.html>
2. <http://www.glencoe.com/sites/common_assets/science/virtual_labs/ES18/ES18.swf>
3. <http://www.education.noaa.gov/Ocean_and_Coasts/Ocean_Floor_Features.html>

**Questions:**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ocean is the largest ocean. It covers \_\_\_\_\_\_\_ % of the Earth.
2. This is the 5th ocean, sometimes not recognized by textbooks. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. This ocean is so cold it is almost completely frozen during the winter. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. What are some examples of Benthos? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. What makes Nekton swimming abilities different from plankton and benthos? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

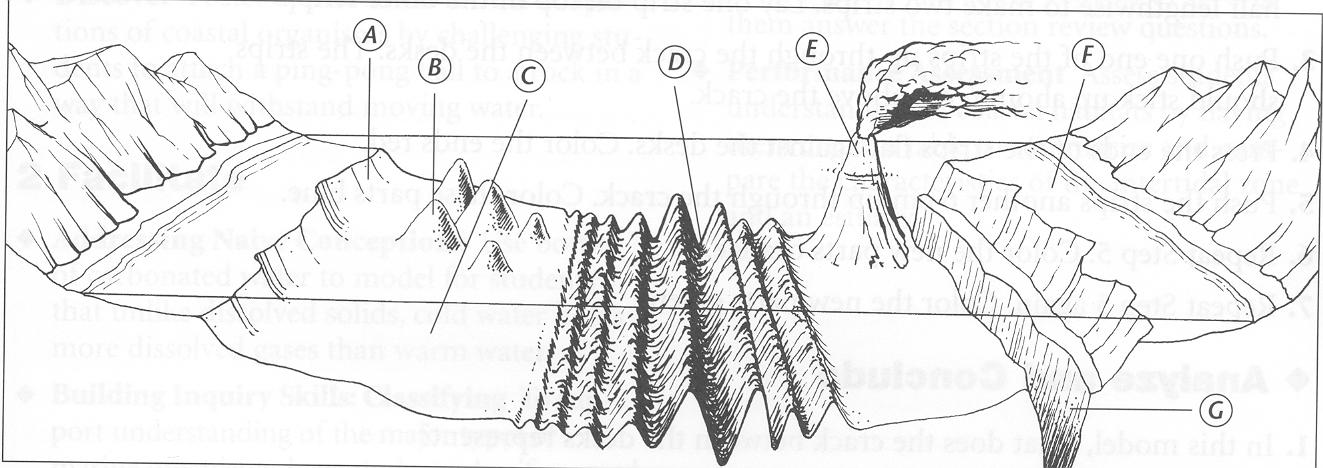
6. Plankton rely on what for movement? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What is the deepest part of the Pacific Ocean? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What about the Atlantic Ocean? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Seawater contains about \_\_\_\_\_\_\_\_ % salt.

9. Label.



A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ F. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

G. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Vocabulary (Ch. 15)**

Define on a separate sheet of paper

* Salinity
* Thermocline
* Density
* Mixed zone
* Plankton
* Phytoplankton
* Zooplankton
* Nekton
* Benthos
* Photic zone
* Intertidal zone
* Neritic zone
* Oceanic zone
* Pelagic zone
* Benthic zone
* Abyssal zone

**Hydrosphere Webquest**

<http://hydrowebquest.weebly.com/>

Click get started and read introduction. Then click start the webquest to begin.

Start with zone 1- **Intertidal Zone** <http://noaacontent.nroc.org/lesson10/l10la2.html>

1. What is the intertidal zone?

2.  Why is the intertidal zone so harsh?

3.  What are the four subdivisions of the intertidal zone?

4. Complete the chart about each zone.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of the subdivision** | **Location of Subdivision** | **Animals found in subdivision** | **Adaptations animals have that help them to live in subdivision** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Proceed to the Neritic Zone** <https://en.wikipedia.org/wiki/Neritic_zone> (link is broken on site so type it in or go to live link in worksheet on site)

1.  How deep does the Neritic Zone extend?

2.  What types of autotrophic life live in this zone (give three examples).

3.  Why is kelp important to the Neritic Zone ecosystems?

4.  Why is the kelp canopy used by organisms as a nursery?

5.  How do scientist use the kelp forest to monitor the ecosystem where kelp forest are found?

**Benthic Zone 1 and 2** <http://www.nhptv.org/natureworks/nwep6j.htm> and <http://www.newworldencyclopedia.org/entry/Benthic_zone>

1. What animals are considered *benthos*?

2.  What are some of the characteristics of this ecosystem that makes it unique?

3.  How is life in the benthic zone (the benthos) organized?

4. The Abyssal is also part of the Bentic Zone.  Where can it be found?

5.  What are the specific characteristics of the Abyssal? (Give at least three.)

**Deep Ocean Exploration** <http://ocean.si.edu/deep-sea>

1.  At what depth does that water get so cold that it borders on freezing?

2. (After watching the video) Name five unique animals found in the deep ocean by ROV’s.

3.  (Using the link “sophisticated technologies”) What is the difference between an ROV, an AUV, and a Hybrid Vehicle?

4.  (Using the link “sophisticated technologies”) The *Nereus* is the deepest diving Hybrid Vehicle. What is the deepest it has reached and where did it visit on this dive?

5. (Using the link “underwater vehicles”) Which of the submersibles is your favorite?  Why and what did it discover or do that is unique for the other submersibles?

**Vocabulary (Ch. 16)**

Define on a separate sheet of paper

* Ocean current
* Surface current
* Gyre
* Coriolis effect
* Upwelling
* Density current
* Wave height
* Wavelength
* Wave period
* Fetch
* Tide
* Tidal range
* Spring tide
* Neap tide

**Ocean Currents Webquest**

**Websites:**

1. <http://www.montereyinstitute.org/noaa/lesson08.html>
2. <http://www.onr.navy.mil/Focus/ocean/motion/waves1.htm>
3. <http://home.hiwaay.net/~krcool/Astro/moon/moontides/>

**Questions:**

1. What are the 3 different types of breaker waves.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. True or False – Tsunamis are easy to spot in the open ocean.
3. Tsunamis can reach heights of up to \_\_\_\_\_\_\_\_\_\_ ft.
4. What are 2 ocean current systems?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      1. Which is the largest? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5.** Describe and explain the motion that energy moves through a wave. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6**. What are three events that can happen in the ocean that causes tsunamis?

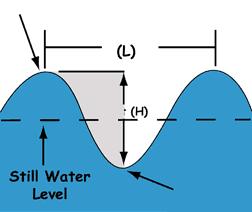
* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the largest contributor to surface currents?

**8**. The Coriolis deflection is to the \_\_\_\_\_\_\_\_\_\_\_\_ in the northern hemisphere and to the \_\_\_\_\_\_\_\_\_\_\_\_ in the southern hemisphere.

**9**. How did the iceberg that hit the Titanic end up in the Atlantic? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10**. Label the parts of a Wave:



**Crest Wavelength Trough Wave height**