

Name \_\_\_\_\_ Hour \_\_\_\_\_

## Environmental Science Semester 2 Study Guide

### Plate Tectonics

1. Explain **sea floor spreading** and where it occurs.
2. Describe Wegener's idea of **continental drift**.
3. List **5 pieces of evidence** to support the idea of continental drift.
4. Describe a **mid-ocean ridge** and what occurs at this location.
5. Explain the **Theory of Plate Tectonics**.
6. Explain why and how convection occurs in the Earth's mantle.
7. Illustrate mantle convection.

8. Where do most earthquakes occur and why do they occur at these locations?

9. Describe tectonic settings where volcanoes form – think landforms at plate boundaries.

10. Complete the following chart

Plate Boundary	Movement	Features formed
Convergent (continental – oceanic)		
Convergent (continental – continental)		
Divergent		
Transform		

## Weather

1. Describe when clouds form. Be sure to include details of how mountains, **frontal wedging**, **convection** and **convergence** are involved in cloud formation.

2. What are Earth's **4 spheres**? Be able to recognize events that would affect each sphere.

## Hydrogeology

1. Describe or sketch an **aquifer**. Include **zone of saturation, zone of aeration and water table**.
2. Describe **surface water** and where it would be found on Earth.
3. Describe **groundwater** and how surface water becomes groundwater.
4. Describe how land use (farming, commercial use, landfills, manufacturing, etc.) impacts the groundwater, aquifers, and fresh water supplies.

## Oceans and Climate

1. Describe what factors affect the temperature of ocean water.
2. Describe the causes and movement of both **deep and surface ocean currents**.
3. Explain how surface currents play a role in the **climate** of an area. Specifically, the North Atlantic Current and the California Current.
4. What factors affect **salinity**?
5. Why is the ocean considered a **carbon sink**?
6. Describe what happens to the density of ocean water as it becomes colder.

7. Explain how ocean currents transfer heat.
8. What are common greenhouse gases and how do they affect the Earth's temperature?
9. Describe the 4 types of evidence of climate change.
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10. List the major greenhouse gases.
11. How has atmospheric CO<sub>2</sub> levels changed in the last 150 years?
12. What happens to most of the radiation that comes to the Earth from the sun (p.34 in textbook)?

## **Astronomy**

1. Describe the formation of our solar system
2. What is a galaxy? Where within the galaxy is our solar system located?

3. Which type of galaxy do we live in? What is its name?
4. Can we see the shape of the Milky Way while on Earth? Why or why not?
5. What are stars made of? How are they born?
6. If all galaxies began to show **blue shifts**, what would this change indicate about the fate of our universe?
7. If all galaxies began to show **red shifts**, what would this change indicate about the fate of our universe?
8. What evidence indicates that the universe is expanding?
9. Based on the Big Bang theory, how old is the universe?
10. List **3** pieces of evidence that supports the Big Bang theory.