Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Plate Tectonics Study Guide**

Earth & Environmental Science

**The Continental Drift** *Section 9.1:*

1. Who hypothesized the idea of the **Continental Drift**, and what did he call the single supercontinent that once joined today’s seven land masses?
2. What evidence was used to support the hypothesis of the Continental Drift? (hint: there are four relevant areas of evidence)
3. What new theory emerged as a result of new technology that followed the rejection of the original “Continental Drift” idea?

**Plate Tectonics** *Sections 9.2, 9.3, 9.4, 9.5:*

Define the following:

Plates

Oceanic ridge

Rift valleys

Subduction zone

Volcanic Island Arc

Lithosphere

1. Name and describe the **three types of boundaries** where major plate interactions occur.
2. Refer to the map on pages 256 & 257 to name 2 examples of each: divergent, convergent, and transform fault boundaries.
3. How do **rifts** form?
4. What types of plate boundaries have **subduction zones**?
5. Explain the four areas of evidence for Plate Tectonic theory.
6. Look at **Figure 18** on page 267. Why do you think Korea has relatively few earthquakes compared to Japan?
7. What causes plate motion? Give an example of the slab-pull and ridge-push mechanism.
8. What is **convection**?

**Earthquakes** *Section 8.1, 8.2, 8.3:*

1. What is an **earthquake**?

Define: Focus Epicenter

Faults

1. Describe the **elastic rebound hypothesis**.
2. What causes **aftershocks** and **foreshocks**?
3. How do scientists measure earthquakes?
4. List, describe, and illustrate (draw) the **two types of seismic waves** that are produced by earthquakes.
5. How do wave intervals relate to the distance and direction of an earthquake?
6. Explain the two different types of measurements used to describe the size of an earthquake.
7. Compare & contrast the outdated Richter scale and more precise moment magnitude that are used to measure earthquakes.
8. How do seismic vibrations cause damage?
9. What determines the amount of damage that can occur as a result of an earthquake?
10. Describe additional dangers that are triggered or result from vibrations of an earthquake.
11. Is it possible for scientists to forecast earthquakes? If so, how is it done?

**The Nature of Volcanic Eruptions** *Section 10.1*

1. Describe the geologic formation of **Hawaii** and/or **Iceland** (*hint*: they formed in the middle of a tectonic plate).
2. What is a **lahar**?

**Faults** *Section 11.1*

Define: Normal Fault

Reverse Fault

Transform Fault (Strike-Slip Fault)