Inside the Earth Unit Study Guide

The Earth's Layers

1. List Earth's layers in order from outer most to innermost.
2. Which layer is thinnest? Which is thickest? Which is hottest? Which is most dense?
3. Which of Earth's layers have humans reached by drilling?
4. What is the importance of the lithosphere and asthenosphere?
5. How does convection currents drive plate movement?
5. When a very dense tectonic plate collides with a less dense tectonic plate what generally occurs?
6. Which layer would you find magma and convection currents?
7. Which two metal are the core composed of?

The Restless Earth

A. Continental Drift

1. Which scientists proposed the theory of Continental Drift?
2. How does seafloor spreading provide for plate movement?
3. How does magnetic polarity reversal provide evidence of seafloor spreading?

B. Types of plate movement:

1. Describe convergent movement along the plate boundaries, including the various types of movement one can expect to see.
2. Describe divergent movement along the plate boundaries, including the various types of movement one can expect to see.
3. Describe transform movement (strike-slip faults) along the plate boundaries, including the various types of movement one can expect to see.
4. Describe the three types of faults.
5. Describe the three types of mountains.

The Mechanics of Earthquakes

1. Describe the relationship between elastic rebound and earthquakes.
2. Describe P and S seismic waves?
3. What are the focus and epicenter?
4. How do we determine the magnitude of an earthquake?
5. What is the Richter scale?

6. What area in the United States are Seismologists (scientist who study earthquakes) the most concerned about? Why is there a high level of concern for this area? What are they doing to help predict earthquakes in this area?

Volcanic Eruptions

1. Describe a non-explosive eruption. Where might you see one of these eruptions taking place?
2. Describe an explosive eruption. Where might you see one of these eruptions taking place?
3. How does magma and water interact?
4. How does magma and silica interact?
5. Describe a pyroclastic flow (cloud). Why are these a serious and deadly concern when volcanoes erupt?
6. Describe the five types of volcanic landforms:
    a. Shield-
    b. Cinder-
    c. Composite-
    d. Craters-
    e. Calderas-
7. Describe the type of volcanic activity we might see at a divergent boundary.
8. Describe the type of volcanic activity we might see at a convergent boundary.
9. What is a subduction zone and where are they usually located?
10. What are hot spots?
11. What are some ways in which scientists try to predict volcanic eruptions?

Fossils and Geological Time

Study the worksheets I gave you before the Winter Break: Fossils and the Evidence They Provide, Fossils and Relative Dating, Geological Time.