**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Unit 3- Forces Within**

**Vocabulary**

Define of a separate sheet of paper

* Earthquake
* Focus
* Epicenter
* Fault
* Elastic rebound hypothesis
* Aftershock
* Foreshock
* Seismograph
* Surface wave
* P wave
* S wave
* Liquefaction
* Tsunami
* Seismic gap
* Crust
* Mantle
* Lithosphere
* Asthenosphere
* Outer core
* Inner core
* Moho

**Earthquakes Webquest**

**Part 1:** [Earthquakes USGS http://earthquake.usgs.gov/learn/kids/eqscience.php](Earthquakes%20USGS%20http%3A/earthquake.usgs.gov/learn/kids/eqscience.php%20)

1. What is an earthquake?

2. What is a foreshock?

3. What is a main shock?

4. What is an aftershock?

5. What causes earthquakes and where do they happen?

6. Why does the earth shake when there is an earthquake?

7. How are earthquakes recorded?

8. How do scientists measure the size of earthquakes?

9. Describe P waves.

10. Describe S waves.

11. How can scientists tell where the earthquake happened?

12. Can scientists predict earthquakes?

**Part 2:** Geography4Kids Faulting [http://www.geography4kids.com/files/earth\_faulting.html](http://www.geography4kids.com/files/earth_faulting.html%20)

1. What happens when two plates meet?

2. Describe folding:

3. Describe faulting:

4. What are dip slips?

5. What does your textbook call dip slips?

6. What is a strike slip?

**Part 3:** Geography4Kids Earthquakes [http://www.geography4kids.com/files/earth\_earthquake.html](http://www.geography4kids.com/files/earth_earthquake.html%20)

1. What causes the Ground to move?

2. What can earthquakes do to change the landscape?

3. Why can we feel earthquakes hundreds of miles away?

4. What are seismic waves?

5. What is the epicenter?

6. What is the focus?

7. Label the parts of an Earthquake



**Now take the "quiz on earthquakes" (click on green box at bottom of page).**

1. True or False: The epicenter of the earthquake is directly below the focus.

The focus of the earthquake is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the epicenter. The focus is the \_\_\_\_\_\_\_\_\_\_\_ under the surface. The epicenter is the point directly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the surface.

1. True or False: Waves move out through the ground from the source of an earthquake.

Energy is released from the point of earthquake \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. That energy moves in waves across the surface of the Earth or across water. Energy from an earthquake can even travel through the planet. The 2004 Indian Ocean quake had a magnitude of\_\_\_\_\_\_\_\_and caused the entire planet to shake a tiny amount.

1. One of the results of an earthquake can be...

Property Damage

Landslide

Tsunami

All of the Above

1. The machine that measures the strength of an earthquake is called...

Radiograph

Seismometer

Electrocardiograph

1. Earthquake foci are...

More than 200 Miles Deep

50-200 Miles Deep

0-50 Miles Deep

All of the Above

The focus of an earthquake can happen \_\_\_\_\_\_\_\_\_\_\_\_\_ underground. It could be a very shallow quake \_\_\_\_\_\_\_\_\_\_\_\_\_ below the surface or a very deep one that starts at over \_\_\_\_\_\_\_\_\_\_\_\_. The massive Indian Ocean earthquake of 2004 was \_\_\_\_\_\_\_\_\_\_\_\_ miles deep. At that point, the ocean was about six miles deep.

1. Many earthquakes happen along the borders of...

Countries

Tectonic Plates

Climate Zones

None of the Above

1. True or False: Faults are only found near the edges of tectonic plates.
2. True or False: Energy waves from large earthquakes can move through large portions of the Earth.
3. True or False: Earthquakes can happen when the strain on weak rocks forces them to break and fracture.
4. Earthquakes can happen when there is a large amount of...

Volcanic Activity

High Tides

Surface Construction

All of the Above

**Part 4:** Checking Current Earthquakes http://earthquake.usgs.gov

Click on the above link "Checking Current Earthquakes,"

Then click on the "Latest Earthquakes" Map.

 On the left side you will see a list of the latest earthquakes in the world that have been 2.5 magnitude or higher

How many earthquakes have occurred around the world TODAY?

Zoom out on the map and see where these earthquakes have taken place (orange dots). Where have most taken place? (hint: what do the red lines represent?)

Where was the most recent earthquake in the United States? 

**Vocabulary (Ch. 9)**

Define on a separate sheet of paper

* Continental drift
* Pangea
* Plate tectonics
* Plate
* Divergent boundary
* Convergent boundary
* Transform fault bounda5ry
* Oceanic ridge
* Rift valley
* Seafloor spreading
* Subduction zone
* Trench
* Convective flow
* Slab-pull
* Ridge-push
* Mantle plume

**Websites:**

1. <http://www.moorlandschool.co.uk/earth/tectonic.htm>
2. <http://csep10.phys.utk.edu/astr161/lect/earth/tectonics.html>
3. <http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Continents.shtml>

**Questions:**

1. Which is thinner, Oceanic Crust or Continental Crust?
2. How many tectonic plates are there? \_\_\_\_\_ What are the names of some major plates?
3. How do convection currents affect tectonic plates?

4. What is some evidence that Pangaea once existed?

5. What is a divergent plate boundary?

6. How does sea floor spreading affect tectonic plates?

1. What are the three different types of convergent boundaries? Give some examples.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Who discovered the theory of plate tectonics?

9. What does Pangaea stand for?

10. True or False – Crust is constantly being created and destroyed.

**Vocabulary (Ch. 10)**

Define on a separate sheet of paper

* Viscosity
* Vent
* Pyroclastic material
* Volcano
* Crater
* Shield volcano
* Cinder cone
* Composite cone
* Caldera
* Pluton
* Sill
* Laccolith
* Dike
* Batholith

**Volcanoes--Webquest**

[**http://volcanoes.usgs.gov/activity/status.php**](http://volcanoes.usgs.gov/activity/status.php)

List three volcano alerts, including name of volcano, location and status.

1.

2.

3.

Click on the webpage: <http://www.encyclopedia.com/topic/Volcanoes.aspx>

Define the following terms:

1. Volcano
2. Volcanic activity
3. Caldera
4. Hot spot
5. Lava
6. Magma
7. Pyroclastic flow
8. There are many structures within a volcano. Using the website [**http://www.volcanolive.com/**](http://www.volcanolive.com/) click on “volcanology” and then navigate to the glossary to define the following structures.
	1. magna chamber
	2. Pipe
	3. vent

* 1. crater

Using <http://www.geology.sdsu.edu/how_volcanoes_work/Volcano_tectonic.html> answer the following questions.

1. Volcanoes can primarily be found in three tectonic environments. List and explain all three. Then look the web page at the end of this question

a)

b)

c)

Navigate to: [**http://pubs.usgs.gov/gip/dynamic/world\_map.html**](http://pubs.usgs.gov/gip/dynamic/world_map.html)

1. List three hot spot locations associate with the mid-oceanic ridge.
2. Navigate to the hotspot map. List four specific hot spots from the map.

OTHER IGNEOUS FEATURES

 Read the following website to answer the following questions. [**http://volcanoeruptions.wikispaces.com/Igneous+Intrusions**](http://volcanoeruptions.wikispaces.com/Igneous%2BIntrusions)

1. List the six types of intrusions and describe their shape and size.

a)

b)

c)

d)

e)

f)

**Read the article “Highway from Hell”** <http://www.nbcnews.com/id/52632801/ns/technology_and_science-science/>

What volcano is the article about, and where is it located?

At what speed did the magma rise from the mantle ( Km / month)?

Irazú volcano is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, rising above a [\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_](http://www.livescience.com/13941-megathrust-earthquakes-chile-japan-subduction%20-zones.html)where two of Earth's tectonic plates collide and one dives into the mantle.

What type of crystals are the authors analyzing from arc volcanoes?