

Earthquakes, Volcanoes, and Mountains Review

Key Terms			
Continental Drift Theory (Pangea)	Earthquake	Volcano	Mountain
Plate Tectonics Theory	Seismograph	Erupt	Anticline
	Richter scale	Dormant	Syncline
	Types of Earthquake Movements: Convergent Divergent Transform Fault	Types of Volcanoes: Ash-and-Cinder Cone Shield Composite (Stratovolcano)	Normal Fault Reverse Fault
	Types of Earthquake Waves: Primary, Secondary, Surface	Hot Spot	Complex Mountain
	Focus	Ring of Fire	
	Epicentre	Geothermal Energy	

Questions:

1. How did the Earth change according to the Continental Drift Theory (Pangea)?

The idea that there was once one large supercontinent that had broken into pieces is supported by biological (plant / animal fossils), geological (rocks), and meteorological (climate change) evidence.

2. What is the Plate Tectonic Theory?

The Plate Tectonic Theory states that Earth's crust is broken into pieces called "plates" that are always moving around the Earth's mantle. This movement causes earthquakes, volcanoes and mountains.

3. Describe the three kinds of rock movement that can cause earthquakes.

Convergent: Plates push against one another. One can sometimes "subduct" beneath the other.

Divergent: Plates pull apart from one another causing fissures in the crust.

Transform Fault: Plates slide past one another, becoming stuck, so pressure builds until it can be released.

4. How does a seismograph work?

A seismograph is a sensitive machine that is attached to bedrock in order to measure the strength of earthquakes. It records movement using a pendulum that swings with the motion of the rock that it is attached to. The larger the graph, the larger the earthquake.

5. In Canada, where are earthquakes most likely to occur?

Earthquakes are most likely to occur on the West coast, (British Columbia) as it sits above the Pacific plate boundary.

6. Name and describe the different types of volcanoes.

Ash-and-Cinder Cone: the smallest type with gently sloping sides and a large bowl-shaped crater.

Shield: the largest type that is shaped like a shield that is lying face up with gentle slopes.

Composite: formed in a subduction zone with a steep slope.

7. What similarities are there between the causes of earthquakes and the causes of volcanoes?

Both earthquakes and volcanoes are caused by the movement of tectonic plates as explained by the Tectonic Plate Theory.

8. What is a hot spot?

A location where the temperature under the crust is much higher than elsewhere. As a result, lava is forced upwards through cracks in the Earth's crust.

9. How could heat from inside the Earth provide electrical energy?

Geothermal energy is harnessed from Earth's interior. Water can be pumped into an area of extreme heat which is then turned into steam that can be collected and used to create energy. The steam is channeled through a control system to turbines and is transformed into electrical energy.

10. Where is the Ring of Fire and how did it get its name?

The top part of the Pacific plate boundary that is highly active, especially with volcanic eruptions.

11. Describe the two main types of mountain formation.

Normal Fault: Vertical faults where the rock moves down.

Reverse Fault: vertical fault where the rock is pushed up.

12. How can you distinguish an old mountain from a young one?

Mountains that are jagged at the top are young and older mountains are more rounded due to years of wind and water erosion.

13. In what ways can you compare the inside structure of Earth to an egg?

The yolk of the egg is similar to the core, the whites represent the mantle and the shell represents the Earth's crust that can crack and allow molten rock to be forced to the surface.