



Volcanoes and Earthquakes

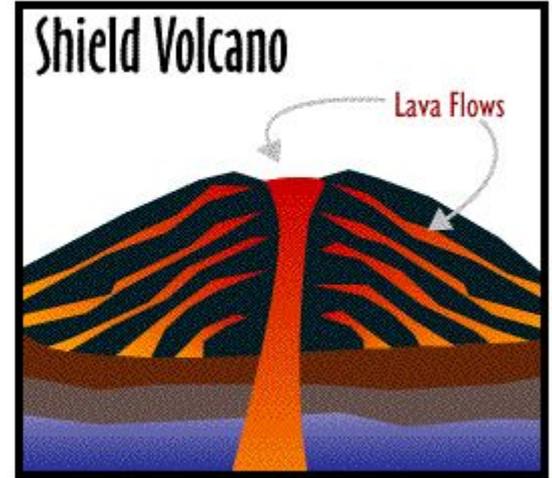
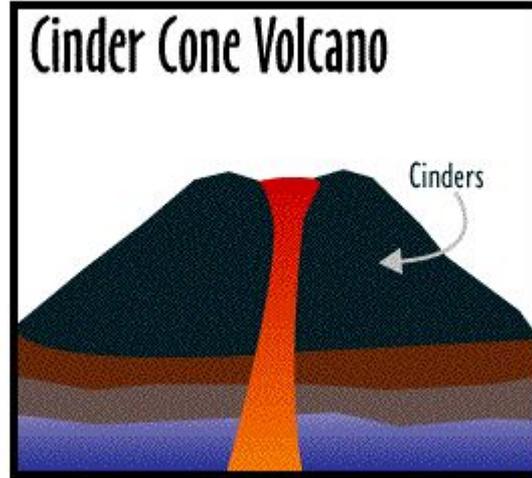
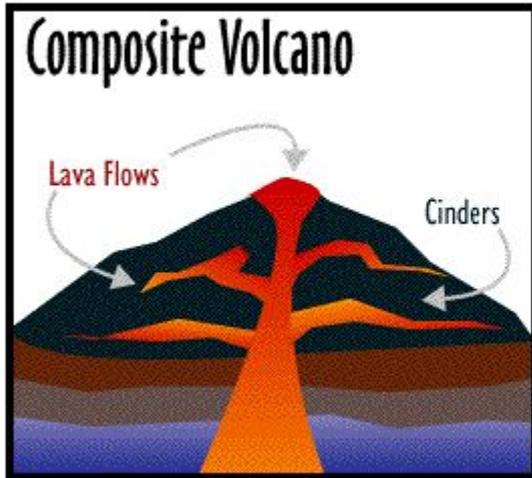


Volcanoes

- Magma is molten rock beneath the Earth's surface.
- Lava is molten rock once it reaches Earth's surface through a volcano.
- Volcanoes can form at divergent boundaries, subduction zones, or at a hot spot.
 - *The Ring of Fire is an example of a subduction zone.
 - *Hot spots are areas often far away from plate boundaries where volcanoes occur.

Three main types of volcanoes

- The volcano shaped like a broad, flat dome is called a shield volcano.
- The cinder cone volcano is a cone shaped volcano built from pieces of fallen magma.
- The composite volcano is also cone shaped, but is made of lava and rock fragments.





Volcano Danger!

- Lava can knock down, burn, or cover everything in its path.
- Volcanic ash can make roads slippery and clog machinery. Large amounts can suffocate living things, and the weight of the ash can cause buildings to collapse.
- Mudflows form as ash mixes into a nearby river, and can bury entire towns.
- Part of the volcano may collapse, creating a landslide.



Earthquakes

- An earthquake is the shaking of the ground caused by sudden movement of rocks along a fault. A fault is a break in the lithosphere.
- The energy of an earthquake travels as seismic waves, which as vibrations.

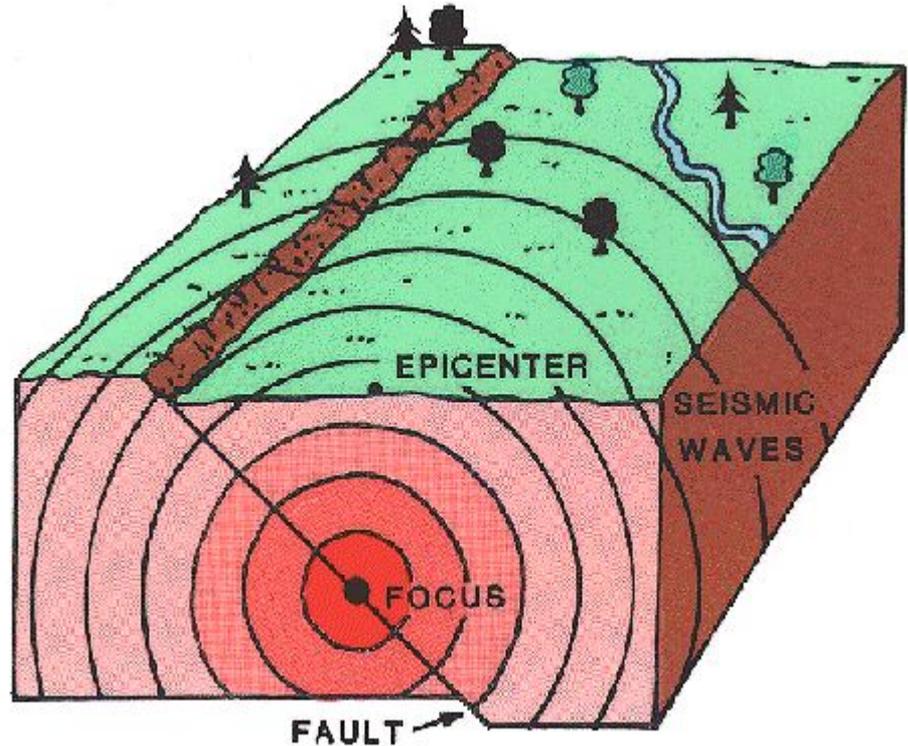


There are three types of seismic waves.

- Primary Waves (p-waves): first to arrive, fastest waves, push-pull motion, can travel through all states of matter.
- Secondary Waves (s-waves): second waves, half the speed of p-waves, up and down motion, can only travel through solids.
- Surface Waves: move along Earth's surface, not interior, cause the most motion and damage, slowest moving.

Parts of an Earthquake

- The location under Earth's surface where an earthquake begins is called the focus.
- The epicenter is the point on Earth's surface directly above the focus.





Earthquake Danger!

- Damage to buildings, fire, loss of life
- Tsunamis, which are massive waves, can be triggered by earthquakes
- An aftershock may occur, which is an earthquake after the earthquake.
- When the ground shakes, liquefaction can occur, which is when soil loosens up and acts like a liquid, causing structures to sink down into it.