Rock Cycle and Dating Rocks

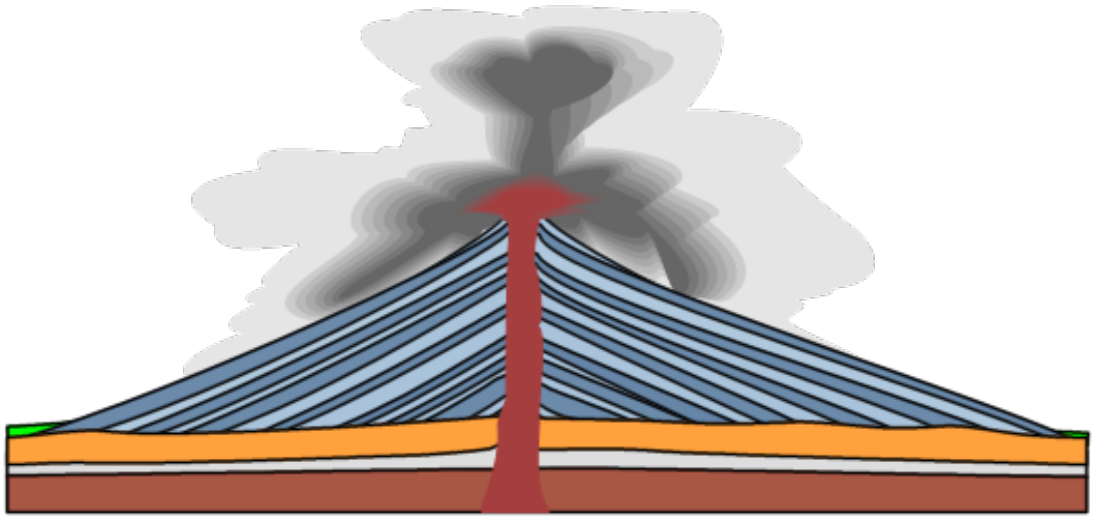
Three types of rock

Igneous
Metamorphic
Sedimentary

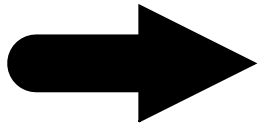
Rock- a mixture of more than one mineral

Rocks can also have glass or organic particles in them.

Igneous rock-
formed from magma beneath the surface of the earth.



Metamorphic- formed when rock is changed by heat or pressure or both



Sedimentary-
made on land
from
weathering or
from effects of
ocean water

Three things that affect rocks.

Weathering

Physical, chemical or biological breakdown of rocks and minerals into smaller sized particles.

Erosion

The removal of weathered sediment or rocks by the forces of wind, water, and ice.

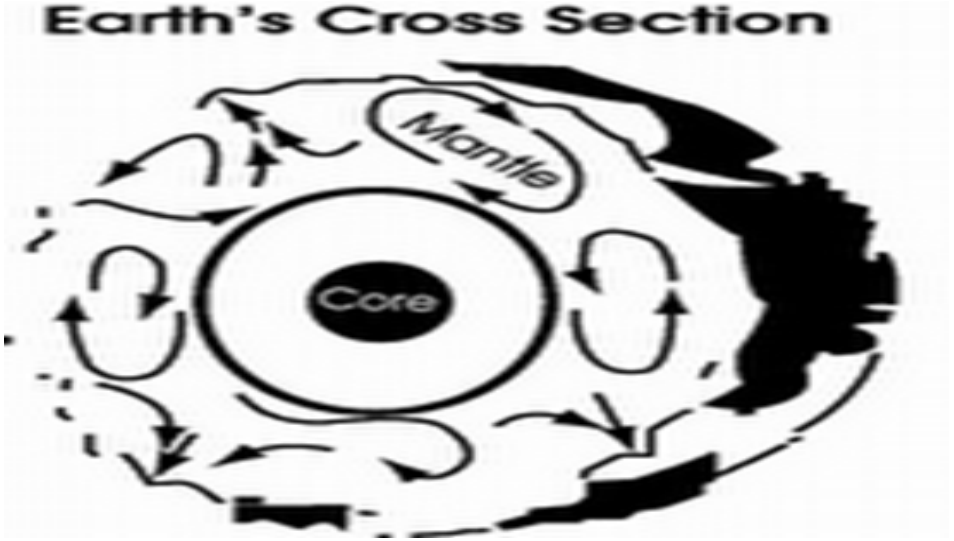
Mass Wasting

General term that describes the downslope movement of sediment, soil, and rock material

Why is the sequence of rocks in a rock cross-section important?

1. Helps with dating

2. Can tell what happened at different times



How do we date rocks?

Absolute dating

Radiometric

Carbon Dating

Relative dating

Law of Superposition

Top is younger

Law of cross cutting

Cut is younger

How do we date rocks?

- We use ratiometric dating to date rocks.

What is radiometric dating?

Some elements in rocks are radioactive, meaning they are unstable and slowly break down into other elements.

The speed at which these elements decay is slow but constant.

Ex. Potassium-40 is an isotope that takes 1.3 billion years to break down to half of its original amount (decays into Calcium-40).

Ex. Carbon-14 is an isotope that takes 5730 years to break down to half of its original amount. (decays into Nitrogen-14)

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