Geology 12
Unit 0 – Introduction
Day 5 – Intro to Physical Geology

Name: _____

Date: _____

Block: _____

Geologic Laws: _____

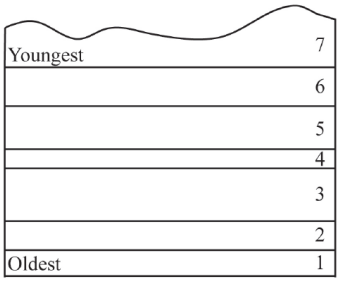
The methods that geologists use to establish relative time scales

The Three Types of Rocks (Very briefly. Detail to come): these three different rock types are formed differently and therefore, need to be interpreted differently

- **Sedimentary:** like sandstone, are made from broken pieces of other rock that are eroded in the high areas of the earth, transported by wind, ice, and water to lower areas, and deposited
- **Igneous:** The cooling and crystallizing of molten rock
- **Metamorphic:** the application of heat and pressure to rocks creates metamorphic rocks

The Law of Superposition: in an undeformed sequence of sedimentaryrocks the oldest rocks will be at the bottom of the sequence while the youngest will be on top

ex: a river carrying sand into an ocean, the sand will spill out onto the ocean floor and come to rest on top of the seafloor. This sand was deposited after the sand of the seafloor was already deposited.

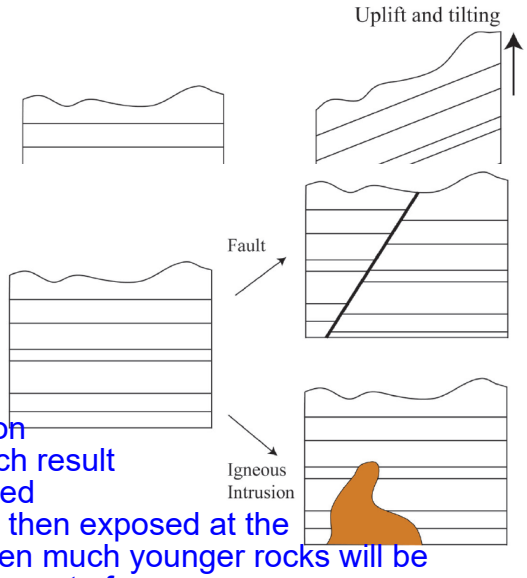


The Law of Original Horizontality: _____

undeformed sedimentary rock are deposited horizontally. The deposition of sediment is controlled by gravity and will pull it downward. If you have muddy water on a slope, the water will flow down the slope and pool flat at the base rather than depositing on the slope itself. This means that if we see sedimentary rock that is tilted or folded it was first deposited flat, then folded or tilted afterward

The Law of Cross-Cutting: _____

when two geologic features intersect, the one that cuts across the other is younger. In essence, a feature has to be present before something can affect it. For example, if a fault fractures through a series of sedimentary rocks those sedimentary rocks must be older than the fault



Unconformities: _____

surfaces that represent significant weathering and erosion (the breakdown of rock and movement of sediment) which result in missing or erased time. Erosion often occurs in elevated areas like continents or mountains much older rocks are then exposed at the earth's surface. If the area sinks (called subsidence), then much younger rocks will be deposited overtop of these newly exposed rocks. The amount of time missing can be relatively short or may represent billions of years.

Nonconformity: If the type of rock is different above and below the unconformity

ex: igneous rock formed deep in the earth is uplifted and exposed at the surface and erosion occurs removing the sed rock above the intrusion and then it is covered with new sedimentary rock.

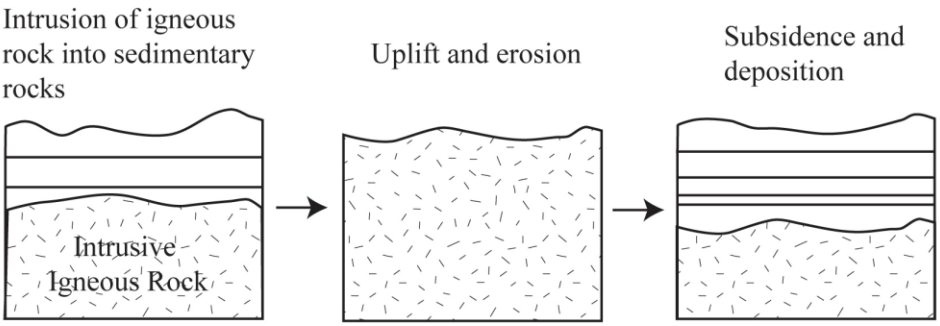
Angular Unconformity: If the rocks below the erosion surface are not parallel with those above

This is often the result of the rocks below being tilted or folded prior to the erosion and deposition of the younger rocks

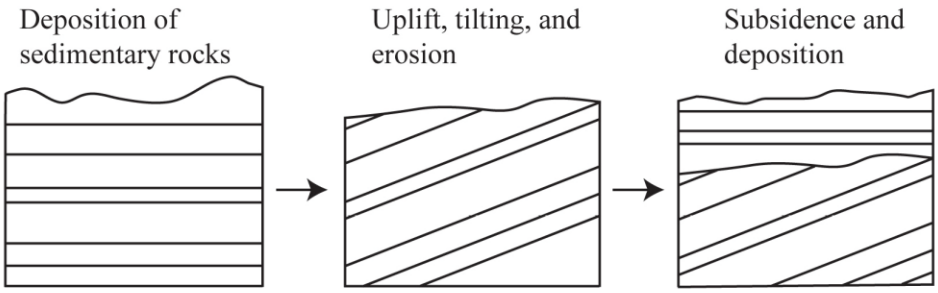
Disconformity: the rocks above and below the erosion surface are parallel

This type of surface is often difficult to detect, but can often be recognized using other information such as the fossils

Nonconformity



Angular Unconformity



Disconformity