

Chapter Ten: The Rock and Fossil Record

Section 2: Relative Dating and Absolute Dating

Relative Dating: a way to determine whether an object is older or younger than other objects

Superposition: principle that states that younger rocks lie above older rocks

Geologic column: ideal sequence of rock layers that contains all the known fossils and rock formations on Earth arranged from oldest to youngest

- Younger features that cut through already existing older rocks:
 - *Fault:* break in the rock that causes it to move up or down
 - *Intrusion:* molten rock from Earth's interior that squeezes through existing rock
 - *Folding:* rock layers that bend due to the Earth's forces
 - *Tilting:* internal forces in the Earth that cause the rock to slant without folding the rock

Unconformity: surface that represents a missing part of the geologic column or missing time – time that was not recorded in layers of rock

Absolute dating: determining the age of an object by figuring out the number of years it has existed

- **Isotopes:** atoms that have the same number of protons but different number of neutrons
- **Radioactive decay:** radioactive isotopes that tend to break down into stable isotopes of other elements

Radiometric dating: determining the absolute age of a sample by the ratio of parent material to daughter material

- **Half-life:** the time it takes for one-half of a radioactive sample to decay
- Potassium-argon method
- Carbon-14 method – when a plant or animal dies, the amount of carbon-14 decreases
 - Used to date things within the last 50,000 years