What is a mineral?

- The five things
- Examples?

What is a rock?

- A solid mixture of one or more minerals.
  - Granite is an example

The difference between a mineral and a rock?

- Minerals tend to have a characteristic crystal structure based on chemical composition.
- Rocks have many minerals in them, so they do not have a definite structure.
- Ex: Granite (rock) is made of feldspar, quartz, amphibole, mica, pyroxene, etc.

Types of Rock

- There are 3 types:
  - Igneous: formed from a cooling of molten or melted rock material.
  - Sedimentary: formed from deposition of sediments and mineral fragments into rock.
  - Metamorphic: formed by exposing existing rocks to intense heat and pressure.

Igneous Rocks

- Take 2 forms:
  - *Plutonic (Intrusive):* form from the cooling of magma below the earth's surface.
    - The grains are usually BIG because they have a lot of time to grow.
  - *Volcanic (Extrusive):* form from the cooling of lava at the surface
    - Grains are small, because they have little time to grow.

Sedimentary Rocks

- Come in 2 forms:
  - *Clastic*: formed by deposition of rock and mineral fragments (clasts) that were transported by wind,water, ice, etc.
    - Ex: Sandstones, shales, conglomerate
  - *Chemical:* formed from minerals that were carried in solution (dissolved in water) and are deposited as precipitates.
    - Ex: an evaporite like halite or gypsum, or a biogenic like limestone in reefs or chaulk.

Metamorphic Rocks

- Forms when rocks are exposed to intense heat, pressure, hydrothermal fluids and time.
- Texture, composition and mineral arrangement of the original rock usually changes.
  - You ID these by using texture and composition.
  - *Remember: texture is the size and arrangement of the mineral grains in a particular rock.*

The Rock Cycle