

Minerals:

*Minerals are solid substances
that occur naturally*

**have crystal structures, which means that the atoms in a mineral are arranged in an orderly pattern that repeats again and again.*

**Rocks are composed of a variety of different minerals and are not the same throughout their structure.*

** Minerals are found in rocks and soil*

**Formed from: cooling of magma*

**Identify minerals based on their physical properties:*

1) Mohs hardness scale: hardest mineral is a diamond/softest talc

2) streak: color of mineral in powder form

3) luster: light is reflected by a minerals surface

4) Cleavage and Fracture: how a mineral breaks into pieces

5) Color

Rocks are Classified

- By looking at how the minerals are arranged, be able to determine how rocks are formed

Igneous Rocks :

Intrusive: igneous rocks form when magma cools slowly below the Earth's surface. Most intrusive rocks have large, well-formed crystals. Examples include granite

Extrusive: igneous rocks form when magma reaches the Earth's surface a volcano and cools quickly. Most extrusive (volcanic) rocks have small crystals. Examples include basalt, and obsidian.

Fire Rocks

- Formed from molten rock either above-lava or below ground-magma
- Hot, liquid rock cools form crystals
- Melted rock cools slowly make large crystals of minerals
- Melted rock that cools quickly make small crystals
 - **Granite** (monuments)
 - formed slowly, trapped beneath the earth surface
 - **Pumice** (decorative landscape)
 - Formed when lava cooled quickly above ground

Sedimentary Rocks

- *Formed when layers of materials and rock settle on top of each other and then harden.*
- *Plant and animal fossils are often found*
- *Examples:*
 - *Conglomerate*
 - *Sandstone*
 - *Limestone: made from mineral calcite, used in concrete*
 - *Shale: formed from clay that is compacted together by pressure, bricks*

Metamorphic Rocks

- solid rock that is squeezed and heated to a very high temp, therefore particles inside the rock make different arrangements
- New minerals are formed
- “morphed” into another kind of rock
- They were once sedimentary and igneous

Gneiss: once granite, high pressure, high temp., rough layers

Slate: lower pressure, fine thin layers are formed

Schist: formed from basalt, shale, slate