IGNEOUS ROCKS

Forming Igneous Rocks

- Igneous rocks are formed from the cooling of liquid rock.
- Two things will determine which igneous rock
 - How fast it cools
 - Composition of melted rock



Magma vs. Lava



Intrusive vs. Extrusive

- Igneous rocks can either form deep within the Earth or near/on the surface.
 - Intrusive igneous rocks form deep beneath the surface andhave been cooling for millions of years. These rocks are characterized by large crystals. Ex. Granite



Intrusive vs. Extrusive

- Extrusive igneous rocks form on the surface of the earth.
- When lava erupts out of a volcano it cools rapidly and there is little to no crystal growth.
 - Ex. Obsidian, pumice





Texture

- Texture deals with how big the crystals are in an igneous rock.
- 4 Textures
 - Coarse-Grained: Large crystals, slow cooling
 - Porphyritic: Both large and small crystals, slow cooling with different minerals
 - Fine-Grained: Small crystals, fast cooling
 - Glassy: No crystals, instant cooling







Composition

The composition deals with the chemical make-up of the rock. Silicates are the most common minerals on earth.

How much silica does a rock have????

- Felsic (light)- rock made up mostly of silicates
 over 65% silica
- Andesitic (medium)- rock that is half dark/light
 between 55-65% silica
- Mafic (dark)- rock that is rich in Fe and Mg
 Between 45-55% silica
- Ultramafic- rocks rich in Fe and Mg
 - Under 45% silica

