

# Notes on Igneous Rocks:

Name: \_\_\_\_\_

Think of: \_\_\_\_\_: to light with fire  
\_\_\_\_\_ rocks are formed from the \_\_\_\_\_ within the Earth: \_\_\_\_\_

How are **Igneous** Rocks Classified? **Igneous rocks are classified by:**

1. \_\_\_\_\_ 2. \_\_\_\_\_

## Igneous Rock Formation

→ Most Igneous rocks form directly from \_\_\_\_\_: **hot, molten rock inside the Earth.**

**Granite is the most common igneous rock, it cooled from magma**

→ **Igneous rocks can also form from cooled lava**

### 3. First Classification of Magma:

- \_\_\_\_\_ is rich in \_\_\_\_\_ (SiO<sub>2</sub>)
- **Small** amounts of Ca, Fe, Mg (\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_)
  - \_\_\_\_\_-moving, **THICK= High viscosity** (resistance to flowing)
  - **Crystallizes** to \_\_\_\_\_ minerals
  - Resulting rocks have relatively \_\_\_\_\_.
  - **Felsic igneous rocks** make up the \_\_\_\_\_.
  - Examples: \_\_\_\_\_ & \_\_\_\_\_.

### 4. Second Classification of Magma:

- \_\_\_\_\_: Low amounts of Silica (SiO<sub>2</sub>)
- Fe and Mg rich (**Lots of** \_\_\_\_\_, \_\_\_\_\_)
  - \_\_\_\_\_-moving, **THINNER= LOW Viscosity**, less resistance to flowing, more fluid
  - **Crystallize** to \_\_\_\_\_ minerals
  - Resulting rocks have relatively \_\_\_\_\_.
  - **Mafic igneous rocks** make up the \_\_\_\_\_.
  - Examples: \_\_\_\_\_, \_\_\_\_\_

### 5. Crystal Size: Small or Large?

- It takes \_\_\_\_\_ to grow crystals
- As magma cools, it \_\_\_\_\_.
- If magma cools \_\_\_\_\_, what size crystals will form? \_\_\_\_\_
- If **magma cools quickly**, **small crystals** will form because they have \_\_\_\_\_ time to grow.
- \_\_\_\_\_ cools so fast that **no crystals have any time to grow** (Volcanic Glass)

### 6. Igneous Rocks, Intrusive v/s Extrusive:

\_\_\_\_\_ : Igneous rock that **crystallizes** \_\_\_\_\_ Earth's surface, from **magma**. The **slower the magma cools**, the **larger the crystals!**

→ **IN-trusive** = Formed IN-side the Earth

\_\_\_\_\_ : Igneous rock that forms \_\_\_\_\_ the Earth's surface from \_\_\_\_\_. The **faster the lava cools**, the **smaller the crystals!**

→ **EXT-rusive** = EXITED the earth

\_\_\_\_\_ is \_\_\_\_\_ that has reached the Earth's surface.

**The most common igneous rock is Granite, it cooled from magma (intrusive) and has large crystals!**

Composition of **Granite**: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_