



# Igneous Rocks

Read Pages 64-68

## Topic 3 "Recognizing Igneous Rocks" (page 64)

Formed from cooling of liquid rock (2 places)

1. underground – magma cools inside the Earth = intrusive or plutonic  
(cools slower = larger crystals, visible after cover is worn away)
2. above ground – magma pours onto surface - lava = extrusive or volcanic  
(cool quickly = smaller or no crystals)

## Topic 4 "Kind of Magma" (page 65)

1. Felsic - (feldspar and Silica) light colored rocks
  - \*high % of silica ( $\text{SiO}_2$  is light color)
  - \*low % of iron, magnesium, calcium (dark minerals)
  - \*thick, slow flowing magma
  - Examples: **granite, rhyolite, pumice, obsidian** (most plutonic)
2. Mafic – dark colored rocks
  - \*high % iron, magnesium, calcium (dark minerals)
  - \*low % silica (light minerals)
  - \*thin, fast flowing magma/lava, more fluid
  - Examples: **gabbro, basalt, scoria** (most volcanic)

## Topic 5 "Textures of an Igneous Rock" (page 65)

Texture depends on size, shape and arrangement of crystals

- \*large crystals – slow cooling, high % dissolved gasses  
(intrusive or plutonic rocks)
- \*small crystals or glassy – fast cooling, low % gasses  
(extrusive or volcanic rocks)

## Topic 6 "Porphyritic Texture" (page 66)

- \*both large crystals and small crystals...why?  
...two cooling rates, slowly then quickly

Topic 7 & 8 “Families of Igneous Rocks” (page 66-68)

Grouped according to mineral composition

**1. Granite Family**

Formed from which kind of magma?

Made of which minerals?

What color is the Granite Family?

Examples:

**2. Gabbro Family**

Formed from which kind of magma?

Made of which minerals?

What color is the Gabbro Family?

Examples:

**3. Diorite Family**

Formed from which kind of magma?

Made of which minerals?

What color is the Diorite Family?

Examples: