

# Igneous Rock Classification

## Properties of Igneous Rock Compositions

Igneous rocks are classified by their composition (from felsic to ultramafic).

Properties of Igneous Rock Compositions			
Composition	Color	Density	Minerals
Felsic	Light	Low	Quartz, orthoclase feldspar
Intermediate	Intermediate	Intermediate	Plagioclase feldspar, biotite, amphibole
Mafic	Dark	High	Olivine, pyroxene
Ultramafic	Very dark	Very high	Olivine

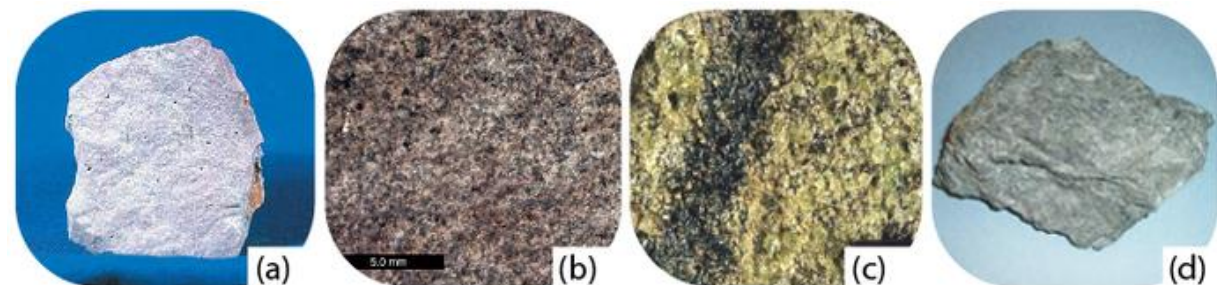
## Texture

Igneous rocks are also classified by texture.

Texture indicates how the magma that formed the rock cooled.

## Silica Composition and Texture of Major Igneous Rocks

Silica Composition and Texture of Major Igneous Rocks			
Type	Amount of Silica	Extrusive	Intrusive
Ultramafic	<45%	Komatiite	Peridotite
Mafic	45-52%	Basalt	Gabbro
Intermediate	52-63%	Andesite	Diorite
Intermediate-Felsic	63-69%	Dacite	Granodiorite
Felsic	>69% SiO <sub>2</sub>	Rhyolite	Granite



These are photos of A) rhyolite, B) gabbro, C) peridotite, and D) komatiite.

**Study Tip**  
Composition starts with a C and Texture starts with a T. C comes before T in the alphabet, so composition must come before texture when classifying igneous rock.

## Concept Check

- How do scientists classify igneous rocks?

## Supplemental Learning

Fill in this chart:

Properties of Igneous Rock Compositions			
Composition	Color	Density	Minerals
Felsic			
Intermediate			
Mafic			
Ultramafic			

