

# Igneous, Sedimentary or Metamorphic?

Look at each of the characteristics below to help you determine the type of rock you have. These are general characteristics and not every rock in the group will have all of them. For example, granite does not have gas bubbles and marble is not layered.

## Igneous Rocks

- ◆ A rock that has crystals.
- ◆ A rock that will scratch a brick.
- ◆ A rock that is rough on the outside or filled with gas bubble holes.
- ◆ A rock that does not have bands or layers of colors.

### Igneous Rocks



Crystals

Harder than 5

Gas bubbles

## Sedimentary Rocks

- ◆ A rock made up of broken pieces of other rocks.
- ◆ A rock that is layered.
- ◆ A rock made that contains fossils, plant material or is made from bits and pieces of shells.
- ◆ A rock that has a dull luster.

- ◆ A rock made of minerals that crystallized as water evaporated.

## Sedimentary Rocks



Rock pieces

Layered

Shells or fossils

## Metamorphic rocks

- ◆ A layered rock with specks of mica in the layers.
- ◆ A rock that has layers of dark and light minerals.
- ◆ A rock whose layers show signs of bending.
- ◆ A rock with a sugary texture.

### Metamorphic Rocks



Specks of mica

Mineral layers

Sugary texture

Decide which rock group your specimen most closely resembles and go to that section to look for more information. You may need to go to more than one section of the book to determine the identity of a particular rock since these are general characteristics.

# Igneous Rock Chart

	<b>Dark (Black)</b>	<b>Intermediate (Gray)</b>	<b>Light (Lt. Gray/buff)</b>
<b>Extrusive Small Crystals</b>	Basalt	Andesite	Rhyolite
<b>Intrusive Large Crystals</b>	Gabbro	Diorite	Granite
<b>Pyroclastic (Tephra)</b>	Cinders Lava bombs Breccia	Ash Tuff	Ash Lapilli Tuff
<b>Glassy</b>	Scoria		Obsidian Pumice
<b>Minerals</b>	Olivine Augite Labradorite	Plagioclase feldspar Hornblende Augite Hornblende	Orthoclase Feldspar Quartz Albite Muscovite

**Igneous Rocks** are divided into four sections on the following pages.

- ♦ **Intrusive Igneous Rocks** — Rocks, which cool and crystallize underground, are intrusive rocks or plutonic rocks.
- ♦ **Extrusive Igneous Rocks** — Rocks cooling above ground are extrusive rocks or lava rocks.
- ♦ **Pyroclastic Rocks** — Rocks, which are blown out of a volcano, are pyroclastic rocks or tephra.
- ♦ **Other Igneous Rocks** — Igneous rocks that have special names.