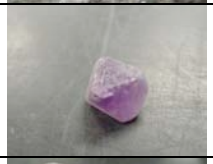
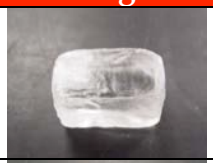
Non-Silicate Minerals							
Name	Image	Color	Hardness	Streak	Cleavage	Luster	Other Properties
Apatite		green	5	white	1 (poor)	vitreous	effervescences with hydrochloric (HCl) acid
Calcite		various	3	white to gray	rhombohedral	non-metallic	effervescences with hydrochloric (HCl) acid
Corundum		various	9	white	none	non-metallic	insoluble
Fluorite		various	4	white	octahedral	vitreous	fluorescent in ultraviolet light
Galena		silver-gray	2.5	gray	cubic	metallic	high specific gravity (7.6) and brittle
Graphite		gray to black	1	gray to black	basal	metallic	feels greasy
Gypsum		colorless, white or gray	2	white	1 (2 poor)	vitreous	soluble in acids

Non-Silicate Minerals							
Name	Image	Color	Hardness	Streak	Cleavage	Luster	Other Properties
Halite		various	2.5	white	cubic	non-metallic	soluble in water, taste salty
Hematite		gray-silver	5 - 6.5	dark red	none	metallic	high specific gravity (5.3)
Limonite		brown to yellow	5 - 5.5	brown to yellow	none	metallic to dull	occurs commonly in irregular shapes
Magnetite		black to gray	6	black	none	non-metallic	magnetic and high specific gravity (5.2)
Pyrite		brassy yellow	6 – 6.5	green to black	none	metallic	high specific gravity (5.0), commonly cubic and brittle
Sphalerite		yellow, brown or black	3.5 – 4	pale yellow-brown	dodecahedral	metallic	smells like sulfur when broken

Silicate Minerals							
Name	**Image**	**Color**	**Hardness**	**Streak**	**Cleavage**	**Luster**	**Other Properties**
Amphibole		green to black	5.5	pale green	2 directions (60° & 120°)	non-metallic	insoluble
Biotite		brown to black	2.5 – 3	gray brown	basal	non-metallic	soluble in sulfuric acid
Garnet		typically dark red to brown	6.5 – 7.5	white	none	vitreous	can be of gem quality
Muscovite		clear	2 – 2.5	white	basal	non-metallic	soluble in acids
Olivine		green	6.5 – 7	colorless	none	vitreous	soluble in hydrochloric acid
Orthoclase		pink or white	6	white	2 directions (90°)	non-metallic	similar to plagioclase, but with no striations on cleavage surfaces
Plagioclase		white to gray	6	white	2 directions (90°)	non-metallic	commonly has parallel striations on cleavage surfaces

Silicate Minerals							
Name	Image	Color	Hardness	Streak	Cleavage	Luster	Other Properties
Pyroxene		green to black	5.5	white	2 directions (87° & 93°)	non-metallic	insoluble
Quartz		various	7	white	none	vitreous	soluble in hydrofluoric acid
Staurolite		brown	7 – 7.5	colorless to gray	1	non-metallic	crystals typically cross and are coffin-shaped in cross-section
Talc		white to green	1	white	1	greasy	feels soapy

Igneous Rock Classification			Textures				
			Plutonic	Volcanic			
Composition	**Common Minerals in order by Bowen's Reaction Series**	**Color**	**Phaneritic**	**Aphanitic**	**Porphyritic**	**Pyroclastic**	**Glassy**
Ultramafic	Olivine	Green	Dunite	x	x	x	x
Mafic	Pyroxene Ca-Plagioclase	Dark	Gabbro	Basalt*	Porphyritic Basalt	x	x
Intermediate	Amphibole Ca/Na-Plagioclase	Black to Gray	Diorite	Andesite	Porphyritic Andesite	Pyroclastic Andesite	x
Felsic	Biotite Na-Plagioclase Orthoclase Muscovite Quartz	Pink to White	Granite	Rhyolite	Porphyritic Rhyolite	Pyroclastic Rhyolite & Tuff	x x x x
These samples do not contain minerals. They are composed of glass only.		Dark	x	x	x	x	Obsidian
		Light	x	x	x	x	Pumice*

* Basalt and Pumice can contain small holes (from trapped gas bubbles) called vesicles, and so their texture would be called **Vesicular**

Images								
Andesite	**Basalt**	**Diorite**	**Dunite**	**Gabbro**	**Granite**	**Obsidian**	**Pumice**	**Rhyolite**
								

Sedimentary Rocks – Detrital Classification

Size Range	< 1/256 mm	1/256 – 1/16 mm	1/16 – 2 mm	> 2 mm
Sediment Name (Size Classification)	**Clay**	**Silt**	**Sand**	**Pebbles, Cobbles, Boulders**
Rock Name	Claystone	Siltstone 	Quartz Sandstone  (contains quartz)	Conglomerate  (rounded fragments)
	Shale  (fissle – i.e. splits into thin layers)		Arkose Sandstone (contains feldspar)	Breccia  (angular fragments)

Sedimentary Rocks – Non-detrital Classification

Dominant Non-detrital mineral	Calcite	Dolomite	Others (including non-minerals)
Rock Name	Limestone  (effervescence with HCl; often contains fossils)	Dolostone  (NO effervescence with HCl)	Coal  (contains organic matter)
	Coquina  (effervescence with HCl; contains shell fragments)		Chert  (contains microcrystalline quartz)

Metamorphic Rock Classification

Texture	Foliated (Regional Metamorphism)				Non-foliated (Contact Metamorphism)	
Rock Name	Slate 	Phyllite 	Schist 	Gneiss 	Marble 	Quartzite 
	Increasing Metamorphism →					
Grain Size	Very fine	Fine	Medium to Coarse	Medium to Coarse	Medium to Coarse	Medium to Coarse
Parent Rock (Protolith)	Shale	Slate	Phyllite	Schist, Granite, or volcanic rocks	Limestone, Dolostone	Quartz Sandstone