

## Properties of Common Minerals

LUSTER	HARD- NESS	CLEAVAGE	FRACTURE	COMMON COLORS	DISTINGUISHING CHARACTERISTICS	USE(S)	COMPOSITION*	MINERAL NAME
Metallic luster	1-2	✓		silver to gray	black streak, greasy feel	pencil lead, lubricants	C	Graphite
	2.5	✓		metallic silver	gray-black streak, cubic cleavage, density = 7.6 g/cm <sup>3</sup>	ore of lead, batteries	PbS	Galena
	5.5-6.5		✓	black to silver	black streak, magnetic	ore of iron, steel	Fe <sub>3</sub> O <sub>4</sub>	Magnetite
	6.5		✓	brassy yellow	green-black streak, (fool's gold)	ore of sulfur	FeS <sub>2</sub>	Pyrite
Either	5.5 - 6.5 or 1		✓	metallic silver or earthy red	red-brown streak	ore of iron, jewelry	Fe <sub>2</sub> O <sub>3</sub>	Hematite
Nonmetallic luster	1	✓		white to green	greasy feel	ceramics, paper	Mg <sub>3</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	Talc
	2		✓	yellow to amber	white-yellow streak	sulfuric acid	S	Sulfur
	2	✓		white to pink or gray	easily scratched by fingernail	plaster of paris, drywall	CaSO <sub>4</sub> ·2H <sub>2</sub> O	Selenite gypsum
	2-2.5	✓		colorless to yellow	flexible in thin sheets	paint, roofing	KAl <sub>3</sub> Si <sub>3</sub> O <sub>10</sub> (OH) <sub>2</sub>	Muscovite mica
	2.5	✓		colorless to white	cubic cleavage, salty taste	food additive, melts ice	NaCl	Halite
	2.5-3	✓		black to dark brown	flexible in thin sheets	construction materials	K(Mg,Fe) <sub>3</sub> AlSi <sub>3</sub> O <sub>10</sub> (OH) <sub>2</sub>	Biotite mica
	3	✓		colorless or variable	bubbles with acid, rhombohedral cleavage	cement, lime	CaCO <sub>3</sub>	Calcite
	3.5	✓		colorless or variable	bubbles with acid when powdered	building stones	CaMg(CO <sub>3</sub> ) <sub>2</sub>	Dolomite
	4	✓		colorless or variable	cleaves in 4 directions	hydrofluoric acid	CaF <sub>2</sub>	Fluorite
	5-6	✓		black to dark green	cleaves in 2 directions at 90°	mineral collections, jewelry	(Ca,Na)(Mg,Fe,Al)(Si,Al) <sub>2</sub> O <sub>6</sub>	Pyroxene (commonly augite)
	5.5	✓		black to dark green	cleaves at 56° and 124°	mineral collections, jewelry	CaNa(Mg,Fe) <sub>4</sub> (Al,Fe,Ti) <sub>3</sub> Si <sub>6</sub> O <sub>22</sub> (O,OH) <sub>2</sub>	Amphibole (commonly hornblende)
	6	✓		white to pink	cleaves in 2 directions at 90°	ceramics, glass	KAlSi <sub>3</sub> O <sub>8</sub>	Potassium feldspar (commonly orthoclase)
	6	✓		white to gray	cleaves in 2 directions, striations visible	ceramics, glass	(Na,Ca)AlSi <sub>3</sub> O <sub>8</sub>	Plagioclase feldspar
	6.5		✓	green to gray or brown	commonly light green and granular	furnace bricks, jewelry	(Fe,Mg) <sub>2</sub> SiO <sub>4</sub>	Olivine
	7		✓	colorless or variable	glassy luster, may form hexagonal crystals	glass, jewelry, electronics	SiO <sub>2</sub>	Quartz
6.5-7.5		✓	dark red to green	often seen as red glassy grains in NYS metamorphic rocks	jewelry (NYS gem), abrasives	Fe <sub>3</sub> Al <sub>2</sub> Si <sub>3</sub> O <sub>12</sub>	Garnet	

\*Chemical symbols: Al = aluminum    Cl = chlorine    H = hydrogen    Na = sodium    S = sulfur  
 C = carbon    F = fluorine    K = potassium    O = oxygen    Si = silicon  
 Ca = calcium    Fe = iron    Mg = magnesium    Pb = lead    Ti = titanium

✓ = dominant form of breakage