Minerals and Their Properties

Luster	Color/Clarity	Streak	Hardness	Cleavage	Specific Gravity	Other Properties	Mineral Name
Metallic	Silver-gray/opaque	Gray	2.5	Three at 90°	7.4–7.6	Very heavy	**Galena** PbS
Metallic to Dull	Brown-black, yellow-black/opaque	Yellowish-brown	5	One (perfect)	4.3	Prismatic with striations, often radially grouped. Botryoidal masses	**Goethite** FeOOH
Metallic	Silver-gray to black/opaque	Dark gray	1	One (excellent)	2.0–2.3	Very soft with a greasy feel	**Graphite** C
Metallic to Dull	Silver-gray, black, or red/opaque	Red-brown	1.5–6.0	Uneven fracture	4.9–5.3	Two main varieties: 1. earthy, soft, red 2. metallic, gray, hard	**Hematite** Fe_2O_3
Metallic to Dull	Silver-gray to black/opaque	Dark gray	6.0	Uneven fracture	5.0–5.2	Attracted to a magnet	**Magnetite** Fe_3O_4
Metallic	Brassy yellow/opaque	Dark gray	6.0–6.5	Uneven fracture	4.9–5.2	Often forms cubes or octahedrons.	**Pyrite** FeS_2
Adamantine or Greasy	Colorless, yellow, pink, brown/ transparent to opaque	None	10	Four (perfect)	3.5	Hardest natural substance known	**Diamond** C
Greasy or Dull	Green/transparent to translucent	White	2.0–2.5	One (excellent)	2.6–3.0	Splits easily into thin sheets	**Chlorite** Ferromagnesian aluminum silicate
Greasy to Silky	Colorless, white, brown, gray/ transparent to translucent	White	6.5–7.5	Two not at 90°	3.2	Usually fibrous in wavy bundles	**Sillimanite** $Al_2(SiO_4)O$
Pearly or Greasy	White, gray, pale green, or brown/opaque	White	1.0	Absent in hand samples (One excellent)	2.7–2.8	Feels soapy	**Talc** $Mg_3Si_4O_{10}(OH)_2$
Dull/Earthy	White to light brown/opaque	White	1.0–2.0	Absent in hand samples (One excellent)	2.6	Forms earthy, microcrystalline masses	**Kaolinite** $Al_4(Si_4O_{10})(OH)_8$
Dull/Earthy	Bright yellow/opaque	Yellow	1.5–2.5	Poor cleavage	2.1	Smells of rotten eggs	**Sulfur** S

Luster	Color/Clarity	Streak	Hardness	Cleavage	Specific Gravity	Other Properties	Mineral Name
Vitreous to Dull	Dark green to black/opaque	White to pale gray	5.5	Two not at 90°	3.0–3.3	Forms prisms or splintery forms	**Amphibole** Complex Silicate
Vitreous	Green, brown, blue, white, purple/transparent to opaque	White	5.0	Conchoidal fracture	3.1–3.4	Forms hexagonal prisms	**Apatite** $Ca_5F(PO_4)_3$
Vitreous	Black, green-black, brown-black/translucent	Gray-brown	2.5–3.0	One (excellent)	2.7–3.1	Breaks easily into thin sheets	**Biotite** $(Mg,Fe)_3AlSi_3O_{10}(OH)_2$
Vitreous to Iridescent	Colorless, white, yellow, brown, pink/transparent to translucent	White	3.0	Three not at 90°	2.7	Effervesces in acid	**Calcite** $CaCO_3$
Vitreous	Gray, blue, red, brown/opaque to transparent	White	9.0	Uneven fracture	3.9–4.1	Very hard (will scratch quartz)	**Corundum** Al_2O_3
Vitreous to Waxy	White, gray, tan, pink/opaque	White	3.5–4.0	Three not at 90°	2.8	Effervesces in acid only when powdered	**Dolomite** $CaMg(CO_3)_2$
Vitreous	Colorless, yellow, green, blue, pink, purple/transparent to translucent	White	4.0	Four (excellent)	3.0–3.3	Fluorescent when exposed to ultraviolet light	**Fluorite** CaF_2
Vitreous	Red, black, brown/opaque to translucent	White	7.0	Uneven fracture	3.5–4.3	Forms dodecahedrons	**Garnet** Complex Silicate
Vitreous to Silky	Colorless, white, gray/transparent to translucent	White	2.0	One (excellent)	2.3	Forms tabular crystals, prisms, blades, or needles	**Gypsum** $CaSO_4 \bullet 2H_2O$
Vitreous	Colorless, white, yellow, brown/transparent to translucent	White	2.5	Three at 90°	2.1–2.6	Tastes salty	**Halite** NaCl
Vitreous	Blue, white, green gray/transparent to translucent	White	5.5–7.0	Two not at 90°	3.5–3.7	Forms elongated prisms	**Kyanite** $Al_2(SiO_4)O$

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Vitreous	Colorless, yellow, brown/transparent to translucent	White	2.0–2.5	One (excellent)	2.7–3.0	Breaks easily into thin sheets	**Muscovite** $Al_2(AlSi_3)O_{10}(OH)_2$
Vitreous	Green, yellow, brown/opaque to translucent	White	7.0	Conchoidal fracture	3.3–3.4	Forms short crystals that resemble sand grains	**Olivine** $(Fe,Mg)_2SiO_4$
Vitreous to Pearly	Colorless, white, gray/opaque	White	6.0	Two at 90°	2.6–2.8	May be iridescent; shows fine, parallel striations	**Plagioclase Feldspar** $(Na,Ca)AlSi_3O_8$
Vitreous	White, pink, orange, brown/opaque	White	6.0	Two at 90°	2.5–2.6	Commonly elongate with a tabular appearance	**Potassium Feldspar** $KAlSi_3O_8$
Vitreous to Dull	Green to black/opaque	White to pale gray	5.5–6.0	Two at 90°	3.2–3.5	Forms short, eight-sided prisms	**Pyroxene** Complex Silicate
Vitreous	Brown, red-brown/ translucent	White to pale gray	7.0–7.5	Conchoidal fracture	3.7–3.8	Commonly forms twins shaped like crosses	**Staurolite** $Fe_2Al_9Si_4O_{23}(OH)$
Vitreous to Greasy	Colorless, white. May occur in all colors/transparent to translucent	White	7.0	Conchoidal fracture	2.7	Forms hexagonal prisms and pyramids, or crystalline masses	**Quartz** SiO_2