



Rock type:	Mineral in metamorphic rocks (and rare igneous rocks)
Formation Environment:	High grade metamorphism of minerals in mudstone, granite, or basalt
Description:	Nonmetallic luster. Dodecahedron form, red (sometimes), glassy, conchoidal fracture, H=7.
Name:	Garnet
Source of picture	K. Wiese



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Rock type:	Mineral in metamorphic rocks
Formation Environment:	High pressure subduction of minerals in basalt
Description:	Nonmetallic luster. Blue, flexible blades.
Name:	Kyanite
Source of picture	K. Wiese



Rock type:	Mineral in metamorphic rocks
Formation Environment:	Hydrothermal metamorphism of minerals in granite, basalt, and others
Description:	Nonmetallic luster. H=7. Green. Striated crystal faces. Massive
Name:	Epidote
Source of picture	K. Wiese



Rock type:	Mineral in igneous rocks
Formation Environment:	Solidification. of felsic magmas. Retained in metamorphism.
Description:	Nonmetallic luster. Subparallel exsolution lamellae. 2 cleavages at 90°. Pink or white color. H = 6. No twinning.
Name:	Potassium Feldspar
Source of picture	K. Wiese

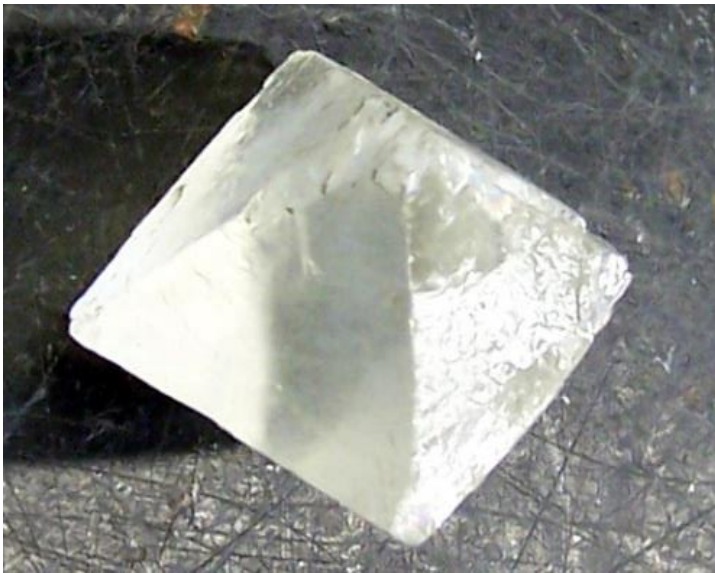


Rock type:	Mineral in igneous rock
Formation Environment:	Solidification. of all magmas. Retained in metamorphism.
Description:	Nonmetallic luster. Twinning. 2 cleavages at 90°. H = 6.
Name:	Plagioclase Feldspar
Source of picture	K. Wiese





Rock type:	Mineral in metamorphic rocks
Formation Environment:	Low grade metamorphism of mudstones and basalts.
Description:	Nonmetallic luster. Green, thin needles.
Name:	Actinolite
Source of picture	K. Wiese



Rock type:	Mineral in igneous rocks
Formation Environment:	Solidification. of felsic igneous rocks rich in fluids (pegmatites) including fluorine.
Description:	Nonmetallic luster. Cubic or octahedral form. 4 directions of cleavage. Triangular faces. Rainbow luster in places.
Name:	Fluorite
Source of picture	K. Wiese



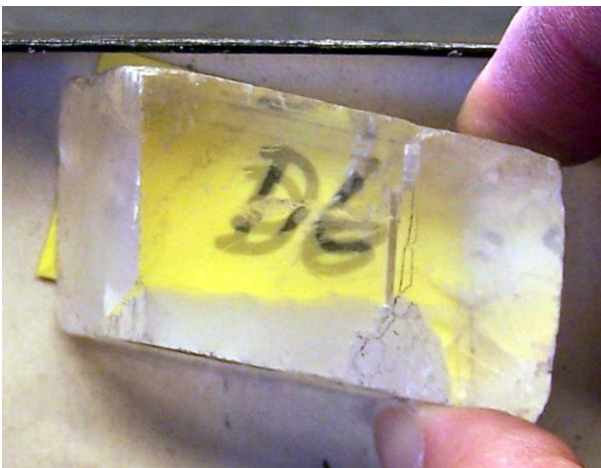
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Rock type:	Mineral in igneous and metamorphic Rocks
Formation Environment:	Solidification. of intermediate composition magmas. Retained and produced in high grade metamorphism
Description:	Nonmetallic luster. H=5.5. Dark green or black. 2 cleavages at 60° & 120°. Splintery fracture. Long prisms.
Name:	Hornblende
Source of picture	K. Wiese



Rock type:	Mineral in igneous and metamorphic rocks
Formation Environment:	Solidification of mafic composition magmas.
Description:	Nonmetallic luster. H=5.5. Dark green or black. 2 cleavages at 90°. (Looks like HB.)
Name:	Pyroxene
Source of picture	K. Wiese



Rock type:	Mineral in sedimentary and metamorphic rocks
Formation Environment:	Chemically precipitated evaporate or recrystallized shells/reef + retained and formed in metamorphism of rocks with calcium
Description:	Nonmetallic luster. Bubbles in HCL. Double refraction (2 images visible through clear sample). Rhombs, 3 cleavage planes (not 90°), H=3.
Name:	Calcite
Source of picture	K. Wiese





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Description:	Nonmetallic luster. Bubbles in HCL. Double refraction (2 images visible through clear sample). Rhombs, 3 cleavage planes (not 90°), H=3.
Name:	Calcite
Source of picture	K. Wiese



Rock type:	Mineral in metamorphic rocks
Formation Environment:	Metamorphism of serpentinite – high pressure, high fluids – subduction zone.
Description:	Nonmetallic luster. Feels greasy or soapy. H=1. Opaque. Not metallic.. Feels greasy or soapy. H=1. Opaque. Not metallic.
Name:	Talc
Source of picture	K. Wiese



Rock type:	Mineral found in metamorphic rock s
Formation Environment:	Low grade metamorphism of clays and micas (mudstones and basalts).
Description:	Nonmetallic luster. Green, nonflexible sheets. Very small flakes.
Name:	Chlorite
Source of picture	K. Wiese





Rock type:	Mineral in igneous and metamorphic rocks
Formation Environment:	Solidification of intermediate and felsic magmas. Low to medium to high grade metamorphism of clays.
Description:	Nonmetallic luster. 1 flexible cleavage plane (sheet), dark colored; brown streak.
Name:	Biotite
Source of picture	K. Wiese



Rock type:	Mineral in igneous rocks
Formation Environment:	Solidification of felsic magmas.
Description:	Nonmetallic luster. 1 flexible cleavage plane (sheet), light colored; white streak.
Name:	Muscovite
Source of picture	K. Wiese



Rock type:	Mineral in sedimentary rocks
Formation Environment:	Oxidation of iron in presence of water during chemical weathering at Earth's surface.
Description:	Metallic luster (+ earthy red). Red streak. Metallic + nonmetallic. Earthy red.
Name:	Hematite
Source of picture	K. Wiese



Rock type:	Mineral found in igneous rock s.
Formation Environment:	Solidification of all magmas (any conversation).
Description:	Metallic luster. Attracted to a magnet. SG=5.2. No cleavage.
Name:	Magnetite
Source of picture	K. Wiese





Rock type:	Mineral in metamorphic rocks
Formation Environment:	Hydrothermal metamorphism of rocks rich in sulfur (and with low oxygen content).
Description:	Metallic luster. Cubic form, brassy color, and SG=5.
Name:	Pyrite
Source of picture	K. Wiese



Rock type:	Mineral found in metamorphic rock
Formation Environment:	Burial and metamorphism of organic material – part of hydrocarbon/petroleum formation.
Description:	Metallic luster. Dark grey. H=1. Greasy. Dark grey streak.
Name:	Graphite
Source of picture	K. Wiese



Rock type:	Mineral in metamorphic rocks
Formation Environment:	Hydrothermal metamorphism of rocks rich in sulfur (and with low oxygen content).
Description:	Metallic. SG=8! Silver cubes (form and cleavage).
Name:	Galena
Source of picture	K. Wiese





Rock type:	Mineral in igneous rock
Formation Environment:	Solidification underground of felsic magmas—especially pegmatites (last-stage magmas rich in gases and fluids).
Description:	Nonmetallic. H=9. Barrel-shaped, flat-end hexagons.
Name:	Corundum
Source of picture	K. Wiese



Rock type:	Mineral found in all rocks
Formation Environment:	Solidification of felsic magmas. Cemented beach sands. Recrystallization of silica-shelled diatoms and radiolaria. Retained in metamorphic rocks.
Description:	Nonmetallic luster. Glassy, conchoidal fracture, H=7. Hex. prism with pointed end.
Name:	Quartz
Source of picture	K. Wiese



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Description:	Nonmetallic luster. Glassy, conchoidal fracture, H=7. Hex. prism with pointed end.
Name:	Quartz
Source of picture	K. Wiese



Rock type:	Minerals in sedimentary rock
Formation Environment:	Shallow super-salty ponds in hot dry regions where evaporation rates are high
Description:	Nonmetallic luster. Transparent to translucent – soft enough to scratch with a fingernail. H=2. 1 cleavage plane. Translucent.
Name:	Gypsum (Calcium Sulfate) -- Evaporite
Source of picture	K. Wiese





Rock type:	Mineral found in igneous rocks
Formation Environment:	Solidification. of ultramafic and mafic magmas
Description:	Nonmetallic luster. Green, conchoidal fracture, glassy, H=7. Usually granular. Not a hexagonal crystal. Green, small crystals – often as grains, glassy, transparent to translucent, conchoidal fracture.
Name:	Olivine
Source of picture	K. Wiese



Rock type:	Minerals in sedimentary rock
Formation Environment:	Shallow super-salty ponds in hot dry regions where evaporation rates are high
Description:	Nonmetallic luster. Salty taste. H=2.5. Cubic form and cleavage.
Name:	Halite (Sodium Chloride) – Evaporite
Source of picture	K. Wiese



Rock type:	Mineral found in metamorphic rock
Formation Environment:	Hydrothermal metamorphism of mantle rock under a seafloor spreading center
Description:	Mottled green color -- Smooth, slick sides - - Looks like squished watermelon seeds – Mottled green color. Smooth, curved surfaces. No cleavage. H>2.-
Name:	Serpentinite
Source of picture	K. Wiese