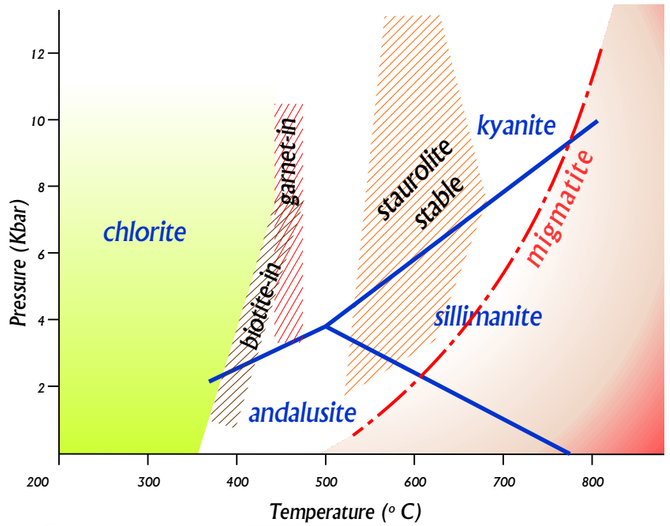
Key to the Identification of Metamorphic Minerals and P/T (Pressure/Temperature) Diagrams for Minerals and Rocks



Softer Than Glass

These minerals are often in mixed mineral associations and hardness may be difficult to determine

Increasing hardness

H: 1; apple-green, gray, white; greasy; foliated masses, or fine-grained aggregates	Often mixed with serpentine; from alteration of mafic minerals; low grade; soapstone = massive	**Talc**
H: 1-2; black to steel gray; metallic luster; greasy feel, black streak	Disseminated In mables, schists, gneisses. Often derived from meta-morphism of organic	**Graphite**
H: 2-2.5; dark green, basal cleavage (micaceous); flexible; but distinct crystals rare; often massive	In slates/phyllites/green schists w/o visible crystals but foliation; common with epidote and actinolite	**Chlorite**
H: 3-5; mottled lighter & darker green; greasy to waxlike when massive; may be fibrous (asbestos)	Common, widely distributed alteration product of olivine pyroxene, amphibole; often with talc	**Serpentine**
H: 5-6; light green prismatic, fibrous or compact (jade); glassy or silky. Grades to white	Commonly seen as fibrous lenses or layers; common in greenschist facies and dolomitic marbles	**Actinolite**
H: 5 & 7; blue (often patchy or streaky) bladed crystals; vitreous to pearly	Typically masses of small crystals; often w/ garnet, staurolite, corundum in schists & gneisses; also eclogites	**Kyanite**

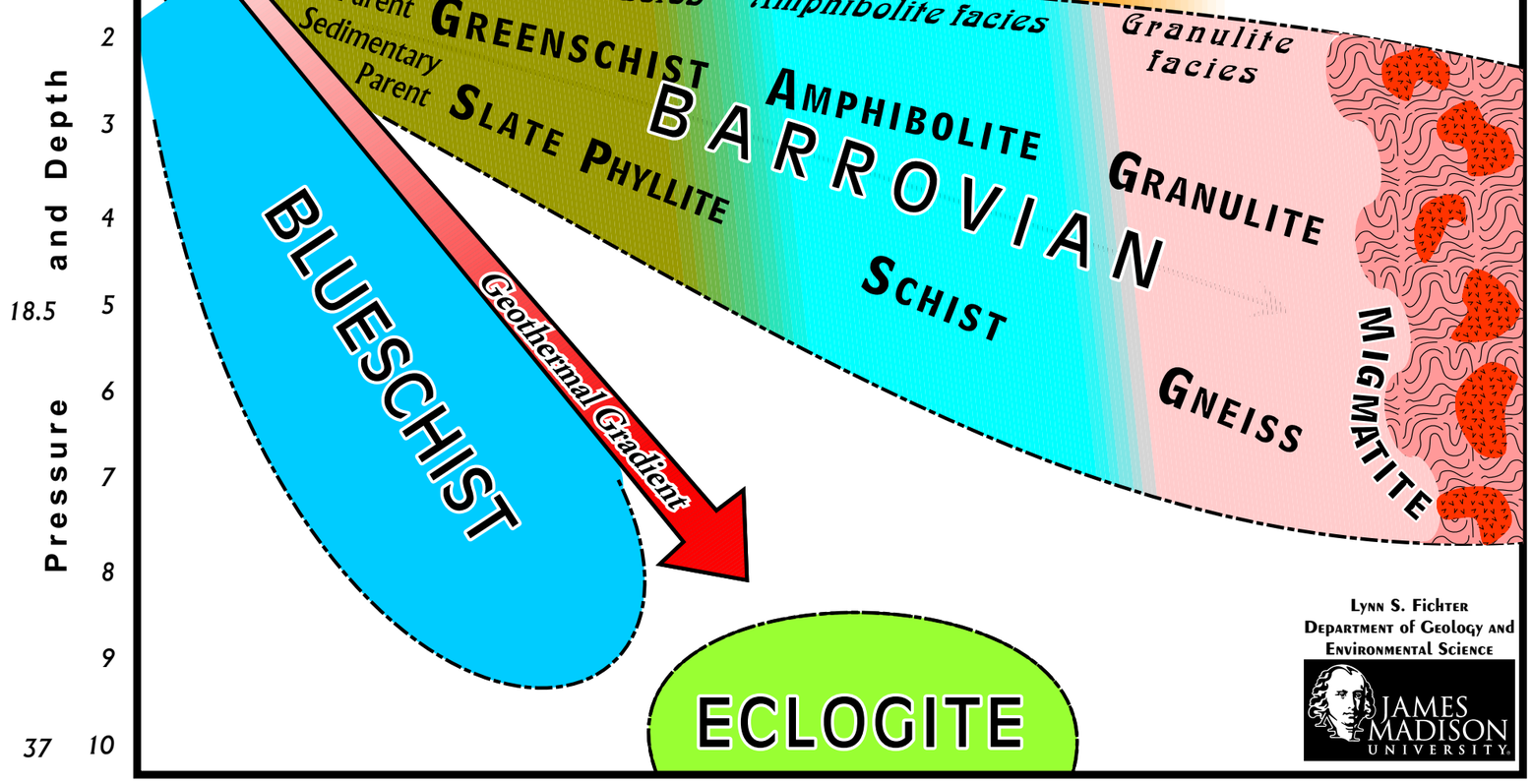
Harder Than Glass

Weathered specimens lose color and hardness; if specimen not here check under softer than glass

Increasing hardness

H: 6-7; long slender to fibrous brown, pale green or white crystals, often in parallel groups	High-grade regional schists/gneisses and contact metamorphic hornfels	**Sillimanite**
H: 7; green (pistachio), yellow to blackish green; prismatic crystals; transparent to translucent	Commonly as a finely disseminated pale-green mass of microscopic crystals mixed with chlorite	**Epidote**
H: 7; prismatic crystals; brown; glassy, dull to earthy; sometimes crossed (intergrown) crystals at 60°	Frequently with garnet in schists, sometimes with kyanite; weathers punky and splotchy	**Staurolite**
H: 7-7.5; 12 sided crystals or fractured masses; glassy; red, brown, yellow, white, green	Common in schists, often with minor amounts of staurolite; also pegmatites and some igneous rocks	**Garnet**
H: 9; hexagonal xystals with basal parting; brown, pink, blue usual, but also white, gray, green, ruby,	In rocks may be confused with staurolite; common in mica schist and marbles & syenites	**Corundum**

Metamorphic Zones and Facies



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