



Mineral

Bladed : Shaped like a knife blade. Commonly displayed by kyanite mineral.

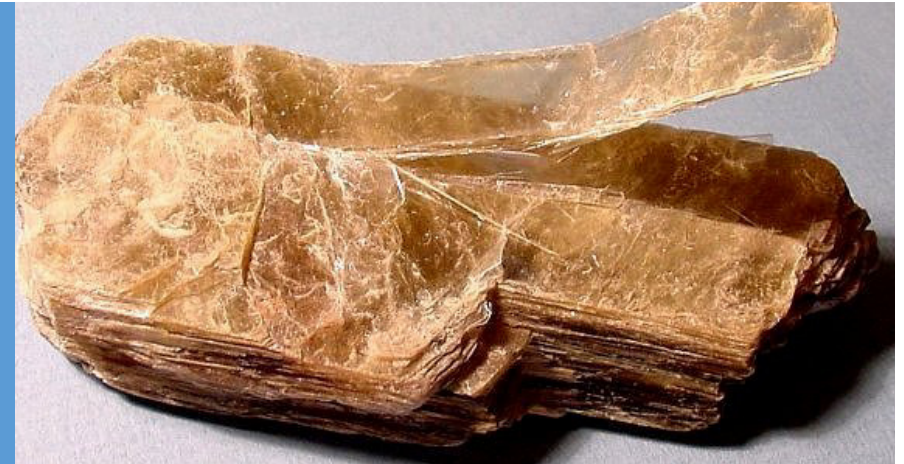


Fibrous: Consisting of fine thread –like strands, Ex Stain spar variety of calcite and asbestos.



Foliated or Foliaceous:

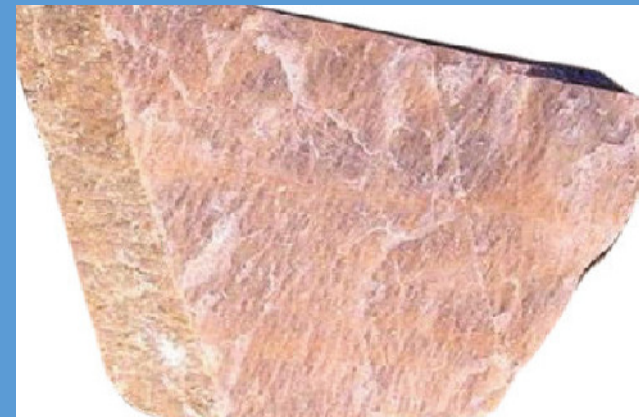
Consisting of thin and separate lamellae or leaves, Ex – Mica group of minerals



Lamellar: Consisting of separable plates or leaves, Ex – Wollastonite



Prismatic: Elongation of the crystal in one direction, Ex – Feldspar and pyroxene



Reticulated: Crystals in a cross- mess pattern, like a net . Ex – rutile needles found within Crystal of quartz



Tabular: Broad, flat, thin crystals, Ex- wollastonite and Feldspar

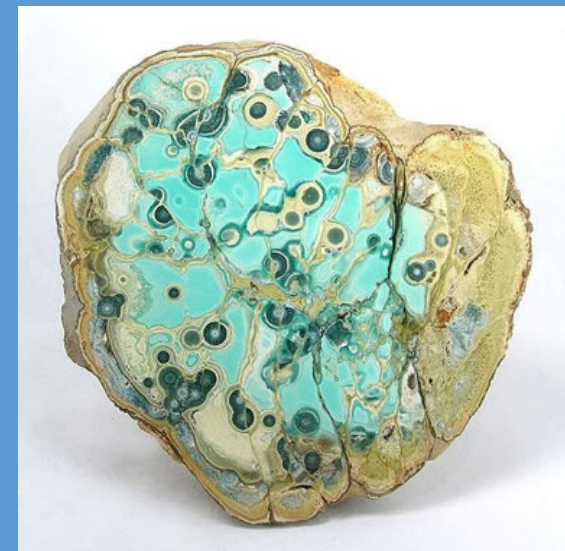
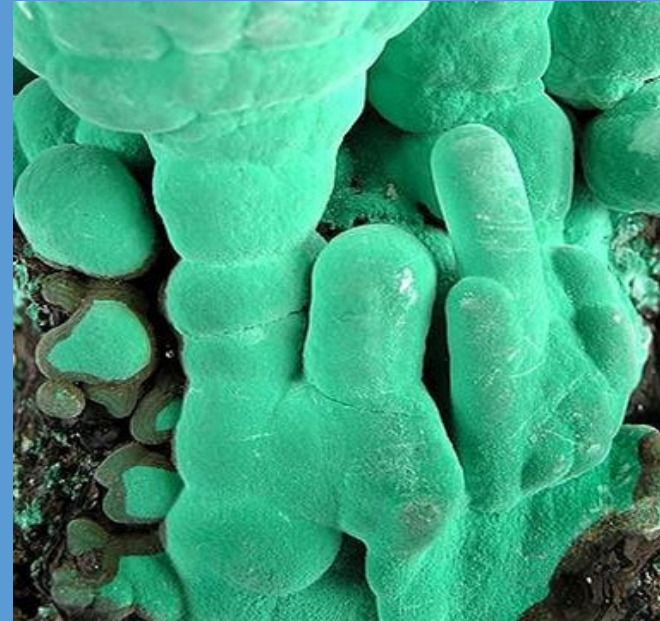
(b) aggregate of Crystals

Amygdaloidal: Almond shaped aggregate , Ex- Zeolite

Botryoidal: Spherical aggregations resembling a bunch of grapes. Ex – Azurite and prehnite.

Columnar: Massive aggregates in slender columns.

Concretionary and nodular: Spherical, ellipsoidal or irregular masses.



Dendritic: Massive aggregate in tree like shape. Ex – Manganese Oxide .



Granular: Coarse or fine grains.

Lenticular: Flattened balls or pellets.

Mammilated: Large mutually interfering spheroidal surfaces Ex- Malachite.

Reniform: Kidney shaped .

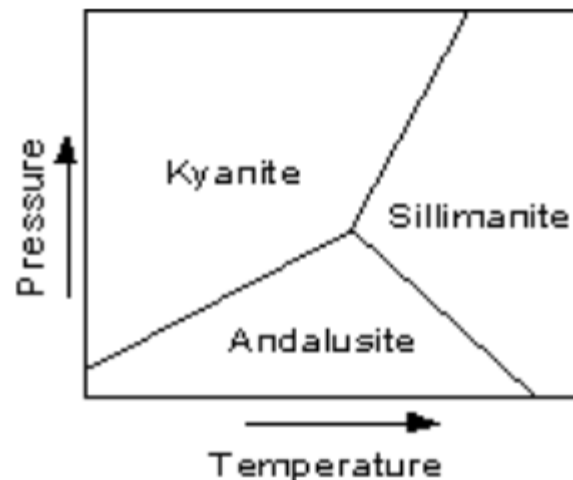
Polymorphism

Polymorphism means "many forms". In mineralogy it means that a single chemical composition can exist with two or more different crystal structures.

Important Polymorphs: Many common minerals show polymorphism.

1. Carbon - has two polymorphs. At high pressure carbon has an isometric crystal structure that is called diamond. As temperature and/or pressure are decreased diamond should undergo a reconstructive transformation to the hexagonal structure of graphite.

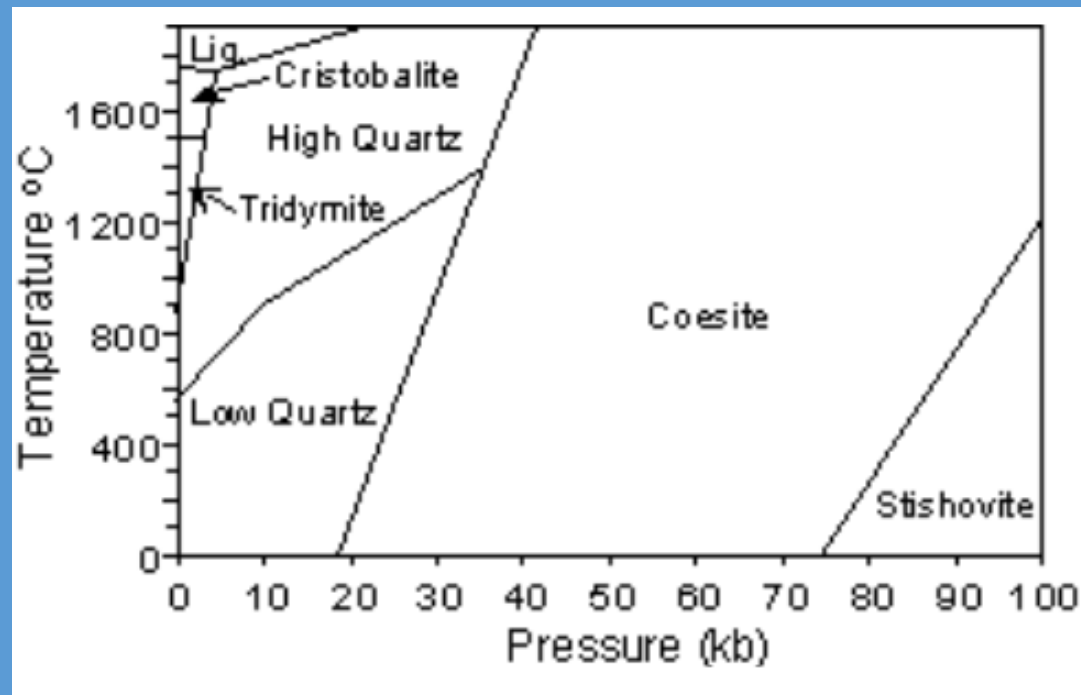
2. Al_2SiO_5 - has three polymorphs. The high pressure form is kyanite (Triclinic), the high temperature form is sillimanite (orthorhombic), and the low temperature, low pressure form is andalusite (orthorhombic).



3. CaCO₃ - has two polymorphs. The high pressure form is aragonite (orthorhombic) and the low pressure form is calcite (hexagonal).

4. SiO₂ - has 6 polymorphs. With decreasing temperature at low pressure, cristobalite (isometric) undergoes to tridymite (hexagonal). Further lowering of temperature results in tridymite undergoing to high quartz (also hexagonal). Lowering temperature further results in high quartz undergoing to low quartz.

With increasing pressure, at low temperature low quartz undergoes transformation to coesite (Monoclinic), and coesite undergoes to stishovite (tetragonal) at even higher pressures.



Pseudomorphism:

Pseudomorph means false form. Pseudomorphism occurs when a mineral is altered in such a way that its internal structure and chemical composition is changed but its external form is preserved.

Isomorphism: Chemical compounds which have an analogous composition and closely related crystalline form are said to be isomorphism. The plagioclase feldspar an excellent example of an isomorphous series.





