



MINERAL IDENTIFICATION

Goals

Learn the properties that distinguish minerals


Learn to identify several common minerals

Learn to use your powers of observation





Mineral Definition


- Naturally Occurring – found in nature
 - Crystalline – made from an orderly atomic array or lattice
 - Inorganic – not from a life process
 - Solid – not liquid, gas, or plasma
 - Consistent Chemical Formula
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Mineral Properties

- Physical Properties
 - Crystal Form – a regular arrangement of atoms that produces a distinct shape (the way the mineral grows)
 - Cleavage – a weakness in the atomic structure that produces consistent breaks along planes
 - Fracture – a recognizable pattern of break not on a cleavage plane
 - Hardness – the resistance to scratching, measured with the Mohs Scale 1-10 (Talc to Diamond)




Mineral Properties

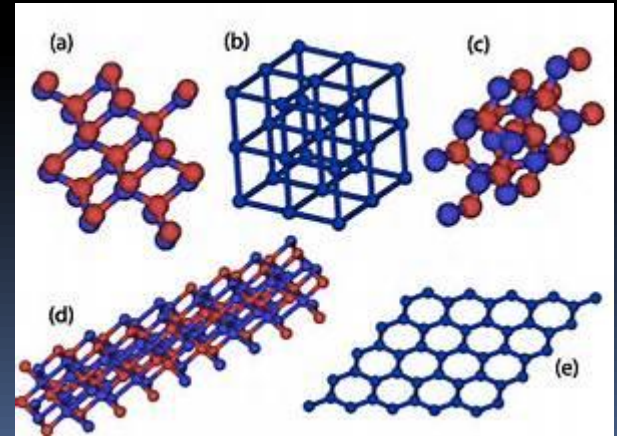
- Properties of Appearance
 - Luster – the way the mineral reflects light
 - Dull, earthy, resinous, pearly, vitreous, metallic
 - Color – probably the first thing we notice, but unreliable
 - Streak – the color of the mineral in powdered form
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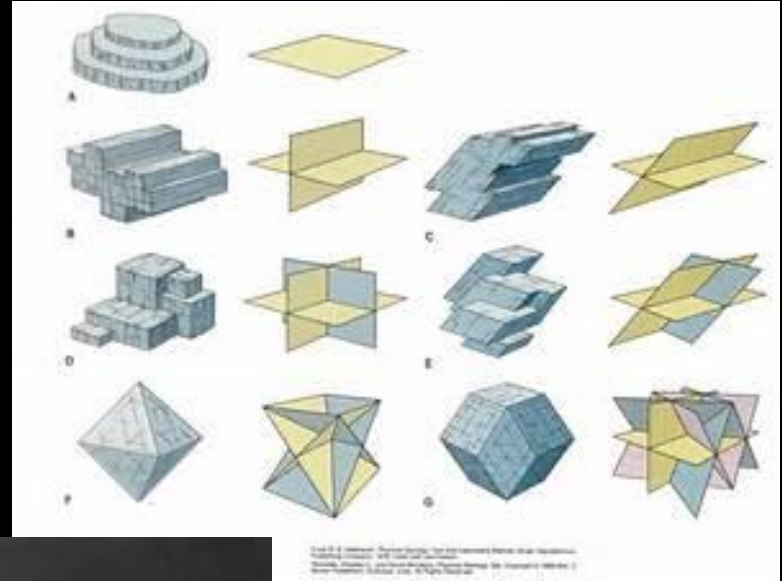
Mineral Properties

- Additional Properties
 - Smell
 - Taste
 - Effervescence in cold HCl
 - Magnetism
 - Feel
 - Density
 - Refraction of Light
 - Fluorescence in UV Light
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Crystal Form



Mineral Cleavage



Fracture



Luster

