

Mineral Notes

Geology: the study of Earth's minerals and rocks

What are the characteristics of minerals?

naturally occurring (Earth makes them)	inorganic solid (does NOT come from plants & animals)	definite chemical composition (the elements that make up the mineral)	Crystal structure (shape due to the arrangement of the atoms)
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Examples of minerals:


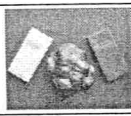


talc, gold, diamond, quartz, copper

How are minerals formed?

magma and lava cooling
(cools slowly = large crystals)
(cools quickly = small crystals)
ex. quartz

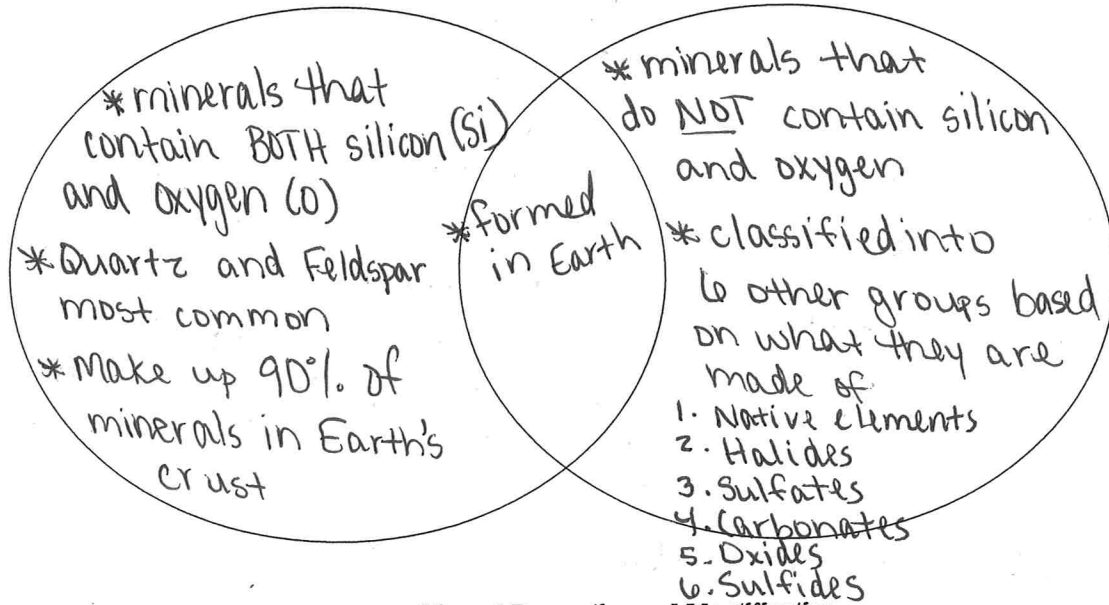
metamorphism
heat and pressure
break bonds and change minerals
ex. graphite, diamond

Solutions -
minerals dissolved in water can crystallize when the water evaporates
ex. halite, gypsum

Tool	Purpose	Picture
Hand Magnifier	to look closely at the minerals	
Streak Plate	to see the color of the powder	
Hammer/chisel	to break up the rock or mineral	
Safety Glasses	to protect eyes from mineral and rock pieces	

Silicate Minerals

Nonsilicate Minerals



Mineral Properties and Identification

Property	Definition	How it's tested
Color	appearance of the mineral	look at it
Streak	color of the powder of the mineral	rub it across a streak plate
Crystal Shape	Arrangement of the atoms	observe it
Cleavage } the way a Fracture } mineral } breaks	breaks along smooth, flat surfaces breaks in rough, jagged ways	break it
Hardness (<u>Moh's</u> scale)	how easily a mineral can be SCRATCHED	scratch everyday objects with the mineral (ex. fingernail, copper, glass)
Luster metallic / non-metallic	how light reflects from the surface	shine a light and observe
Magnetism	magnetic attraction	use a magnet
Fluorescence	glow	UV light