

Chapter 16 Section 1 Notes

What is a Mineral?

naturally occurring, homogeneous, inorganic solid with a definite chemical composition and a orderly internal structure

- compound – two or more atoms chemically bonded together
- the arrangement of atoms in a mineral forms regular, repeating geometric patterns

Ore Minerals - minerals that contain valuable substances and are economical to extract

- Metallic Minerals
 - conduct electricity
- Nonmetallic Minerals
 - do not conduct electricity
 - gemstones – nonmetallic minerals prized for their beauty, rarity, or durability

How do Ore Minerals Form?

- Hydrothermal Solutions – hot, subsurface waters containing dissolved minerals that circulate through rocks
 - veins – ore deposits formed in cracks in rocks
- Evaporites – salts left behind after evaporation; most commonly form in arid regions where rates of evaporation are high; evaporation of water that contains salts
- cooling of magma

Mineral Resources and Their Uses

- for mining to be profitable, the price of the final product must be greater than the costs of extraction and refining
- gangue minerals – minerals that have no commercial value
- two or more metals can be combined to form an alloy