Chapter Three: Minerals
Lesson 3: Sources and Uses of Minerals

The environment in which a mineral forms determines the mineral's properties

Evaporating Saltwater:

- Salt water body dries up…minerals are left behind
    - As salt water evaporates, these minerals crystallize
    - Ex. Gypsum and Halite

Hot-water Solutions:

- Ground water is heated by magma
- Reacts with minerals to form a hot liquid solution
- Dissolved metals and other elements crystallize out of the hot fluid to form new minerals
- Ex. Gold, copper, sulfur, pyrite, and Galena

Ore: a mineral deposit large enough and pure enough to be mined for a profit

Two Methods of mining:

1. Surface mining:
    a. The removal of minerals or other materials at or near the Earth's surface
        i. Ex. Copper ores
2. Deep Mining:
    a. The removal of minerals or other materials from deep within the Earth
        i. Ex. Diamonds and coal

Gems (aka Gemstone):

- Mineral crystals that are attractive and rare
- Must be hard enough to be cut or polished

Two ways to responsible mining:

1. Reclamation: the process of returning the land to its original state after mining is completed…expensive and a time-consuming process
2. Reduce our need for minerals…recycle many mineral products, such as aluminum and iron
    a. Nonrenewable resources: a natural resource that cannot be replaced or that can be replaced only over thousands or millions of years
    b. The more we recycle, the more we will have in the future