Earth Science Unit A Chapter 2 HW Answers

Lesson 1

1. A mineral forms in nature, it is solid, has a definite chemical makeup, and has a crystal structure
2. Scientists classify minerals into groups on the basis of their chemical makeups
3. The silicate group is the most common, and these minerals make up about 90% of the Earth’s crust
4. Oil and natural gas cannot be classified as minerals because they are not solids, they do not form crystals and do not have a definite chemical makeup
5. Melted quartz is not a mineral because it is not a solid
6. The minerals had room to grow into perfect crystals because certain rocks are hollow

Lesson 2

1. Some minerals can occur in different colors
2. Cleavage produces smooth, flat surfaces. Fracture produces irregular shapes
3. The one with a hardness of 5 would be scratched, because the mineral with a hardness of 7 is harder
4. Tests for color, luster, cleavage, facture and hardness would be easy. Density, reaction with acid, fluorescence and radioactivity would be more difficult to test for
5. By comparing their hardness
6. A mineral can display both cleavage and fracture if its bonds are weaker in certain directions and of fairly equal strength in others

Lesson 3

1. Many different answers; however, any from page 61 in your textbook are correct
2. As water evaporates, as hot water cools, as molten rock cools, as heat and pressure change existing minerals, and as organisms produce minerals for shells or bones
3. The rocks must be rich in minerals that people want. The minerals must be worth more than it costs to mine the ores.
4. The ore deep underground, since it is harder to reach
5. Quartz, topaz, corundum or diamond
6. Open pit mining would be used when the ore extends too deep within Earth to be recovered by strip mining