**Ch. 14 Chapter Summary**

1. Tectonic plates have rearranged the earth’s continents and ocean basins over millions of years like pieces of a gigantic jigsaw puzzle. The plates have three types of boundaries. Natural hazards such as earthquakes and volcanoes are likely to be found at plate boundaries.

2. Rocks are large, natural, continuous parts of the earth’s crust. There are three major types of rocks: igneous, sedimentary, and metamorphic. Rocks are affected by changes of physical and chemical conditions that change them over time from one type to another through the rock cycle.

3. Mineral resources include all naturally occurring materials that are used for human purposes. These resources include metals and fossil fuels, and the distribution of these materials across the earth’s surface is highly variable leading to concentrated deposits in certain areas (e.g., diamonds in Angola or oil in Saudi Arabia). This unequal distribution can lead to conflicts and has implications for national security and international relations.

4. Mineral resource extraction methods include surface and subsurface mining. Surface mining types are open-pit, strip, contour strip mining, and mountain removal. Resource extraction technologies are constantly changing but always create some environmental disturbance. In some cases, the environmental impacts of mineral extraction can be severe.

5. All mineral resources are finite but the lifetime of materials varies with the rate of use and the size of the resource. Recycling of mineral resources leads to a longer depletion time compared to those that cannot be reused or recycled.

6. Scientists are developing new types of materials as substitutes for many metals. Mineral conservation and more sustainable manufacturing processes are helping to decrease our use and waste of such resources. Recent, dramatic increases in the cost of minerals are driving aggressive recycling of many resources and particularly metals (e.g., copper).