**Answer Key for Soil, Minerals, Rock Notes**

**VOCABULARY**

**A. Word Puzzle**

1. foliation / I

2. intrusive igneous rock / G

3. sedimentary rock / N

4. sediment / E

5. metamorphic rock / O

6. extrusive igneous rock / U/S

7. metamorphism / R

8. recrystallization / O

9. rock cycle / C

10. rocks / K

**Hidden Word**

igenous rock

11. Forms when molten rock cools and becomes solid.

**B. What Is This?**

12. rock cycle

13. intrusive igneous rock

14. sediment

15. metamorphism

16. foliation

17. sedimentary rock

18. extrusive igneous rock

19. metamorphic rock

20. recrystallization

21. igneous rock

22. rocks

**Chapter 3, Section 1**

**READING STUDY GUIDE A**

1. forms in nature, is a solid, has a definite chemical makeup, has a crystal structure

2. A mineral is always made of the same elements in the same proportions. A mineral’s atoms are arranged in an orderly crystal structure. Rocks contain minerals in different proportions. The minerals that make up a rock are jumbled together.

3. the building of houses and skyscrapers; sources of iron, aluminum, and copper; carving statues and works of art; base for pavement for roads and highways

4. top row—a sketch that represents the rock cycle; middle row—a sentence that uses the term; bottom row—the set of natural processes that form, change, break down, and re-form rocks

5. Igneous rock can form within Earth when molten rock cools and becomes solid. Sedimentary rock forms when loose material is carried by water or wind and settles, forming layers. Metamorphic rock forms when heat or pressure cause older rocks to change into new types of rocks.

6. sedimentary rock; 75%

7. igneous and metamorphic rock; 95%

8. Possible answer: Forming a solid candle from melted wax beads is similar to the way igneous rock forms from molten rock that has cooled.

**CHALLENGE AND EXTENSION**

1. A. sediments

B. sedimentary rock

C. metamorphic rock

D. magma

E. igneous rock

2. weathering and erosion

3. Arrow should go from the sedimentary rock (B) to sediments (A) and be labeled weathering and erosion.

4. Arrow should go from igneous rock (E) to magma (D) and be labeled melting.

**Chapter 4 VOCABULARY**

1. What is humus?

2. What is soil profile?

3. What is weathering?

4. What is exfoliation?

5. What is chemical weathering?

6. What is desertification?

7. What is a soil horizon?

8. What is mechanical weathering?

9. What is abrasion?

10. mechanical weathering

11. soil profile

12. weathering

13. abrasion

14. soil horizon

15. desertification

16. chemical weathering

17. exfoliation

18. humus

**Chapter 4, Section 2**

**READING STUDY GUIDE A**

1. breaks down rocks; two kinds are mechanical and chemical

2. Soil is used to grow food. It makes up the ground beneath our feet.

3. 1) kind of rock in the area; 2) climate or weather patterns; 5) time

4. humus: Definition: decayed organic matter in soil; Examples: decayed leaves and animals, waste products from animals; soil horizon: Definition: a layer of soil whose properties are different from the layers above and below it. Example: the A, B, or C horizon

5. The soil layer is thicker in a valley because soil from the mountain washes downhill into the valley. Soil forms slowly on a mountaintop and gets washed downhill.

6. plants—get broken down to form humus; animals—loosen and mix the soil as they move through it; sketches: the types of organisms mentioned

7. texture: determines how easily air and water move through the soil; color: can indicate what minerals the soil contains; pore space: determines how easily air and water move through the soil; chemistry: affects how well nutrients can be drawn into plants

**Chapter 4, Section 3**

**READING STUDY GUIDE A**

1. characteristics affected by organisms; consists mainly of broken-up rock and organic matter; vary by location; properties can be measured

2. plants; water; nutrients; a home for many living things

3. farming, construction and development, mining

4. can make it harder for microorganisms to produce nutrients naturally; exposes soil to rain and wind; destroys natural vegetation and exposes soil to rain and wind. Sketch: one of the negative effects listed

5. the rate of chemical weathering; sulfide minerals to produce acid rainwater

7. from left to right: terracing—helps prevent soil from washing downhill; windbreaks—help prevent soil from blowing away; contour plowing—helps prevent soil from washing downhill