

Contents

Section 1

Chapter 7: The Earth Close Up

1. The Layers of the Earth	1
2. The Rocky Earth	4
3. Treasures in the Earth's Crust	7
4. Metals and Fuels From the Earth	10
5. Quiz 1 and Extra Activity	14

Section 2

Chapter 8: The Atmosphere of Earth

6. Atmosphere and Wind	15
7. The Wonder of the Clouds	18
8. Powerful Storms	22
9. Investigation: Observe Evaporation	25
10. Quiz 2 and Extra Activity	28

Section 3

Chapter 9: Astronomy: The Wonder of the Heavens

11. Sun, Earth, and Moon	29
12. The Solar System: Inner Planets	32
13. The Solar System: Outer Planets	35
14. Stars, Constellations, and Galaxies	38
15. Self Check	41
16. LightUnit Test	45



The Layers of the Earth

Textbook pages 130-135 | Lesson

1



Read 7.1 “The Layers of the Earth” on pages 130-135 of the textbook.



Exploring the Lesson

A Write the letter of each vocabulary word beside its definition.

1. ____ the outer layer of the earth
2. ____ the solid rock underneath the subsoil
3. ____ hot liquid rock below the earth’s crust
4. ____ hot liquid rock that comes from a volcano
5. ____ a crack in the earth’s crust along the edge of a plate
6. ____ one of the large pieces that make up the earth’s crust

- a. bedrock
- b. crust
- c. fault
- d. lava
- e. magma
- f. plate

B Write *bedrock*, *subsoil*, or *topsoil* to label each layer of the earth’s crust.

7. _____ dark-colored soil full of nutrients; the layer where plants grow
8. _____ lighter-colored layer that contains minerals; usually contains pieces of rock
9. _____ thick layer of solid rock; forms a solid foundation for bridges and skyscrapers





Lesson 1



C Write a word from the box to complete each sentence.

One word will not be used.

crust fault miles pressure

10. Before an earthquake, two plates get stuck at a _____ .
11. _____ builds up until the plates slip up or down or sideways.
12. Earthquakes shake the ground for many _____ and can cause huge amounts of damage.

D Circle the letter(s) of the answer(s) to each question.

13. Where are two places volcanoes most often occur?
 - a. at thin places in the earth's crust
 - b. at faults where two plates meet
 - c. where lakes have formed
14. Why does magma try to escape from underground?
 - a. Pressure builds up.
 - b. The earth has a metal core.
 - c. Gases and ash spray into the air.
15. What are two ways volcanoes are formed?
 - a. Magma escapes slowly, and lava spreads out in a wide low volcano.
 - b. Magma erupts with force, and lava forms a volcano with steep sides.
 - c. Water collects in a lake at the top of the volcano.
16. How are magma and lava the same?
 - a. They are both hot, liquid rock.
 - b. They have both hardened into solid rock.
 - c. They are both still deep below the earth's crust.

E Place a check mark beside the answers to the question.

17. What three things can come out of a volcano during an eruption?

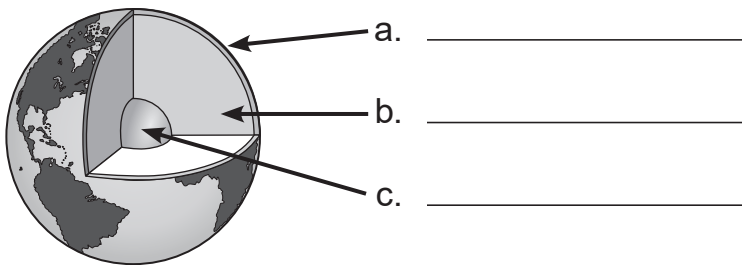
a. ____ gases

d. ____ powdery ash

b. ____ grass

e. ____ topsoil

c. ____ lava

F Write *core*, *crust*, or *mantle* to identify each description or part of the earth.

18. _____ thin outer layer

19. _____ center; made of metals

20. _____ middle layer; made of hot rock

G Draw lines to match the ways the earth is like an apple.

21. core • thin peel

22. crust • flesh

23. mantle • core

H Write the answer to the question.

△ 24. Why do we know very little about the center of the earth? _____

 Read 7.2 “The Rocky Earth” on pages 136-141 of the textbook.

Exploring the Lesson

A Write the vocabulary word that matches each definition.

1. _____ **rocks:** formed from hot, liquid magma that has cooled
2. _____ **rocks:** changed by intense heat and pressure
3. _____ **rocks:** formed from sand, mud, or the remains of living things
4. _____ **resource:** something that is found in nature and is useful to humans

B Circle *T* if the statement is *true* or *F* if it is *false*.

5. **T** **F** All types of igneous rocks cool at the same speed.
6. **T** **F** Sedimentary rocks may have formed during the Flood.
7. **T** **F** Fossils are found in layers of sedimentary rock.
8. **T** **F** Metamorphic rocks form on the earth’s surface.

C Write the letter of each rock beside its uses.

9. ____ chalkboards, roofs
10. ____ monuments
11. ____ gravestones, countertops
12. ____ concrete, roads

- a. granite
- b. limestone
- c. marble
- d. slate

- D** In Column A, write a type of rock from the word box to match each description. In Column B, write a word from the textbook to complete what each rock is made of.

basalt limestone pumice shale
granite marble sandstone slate

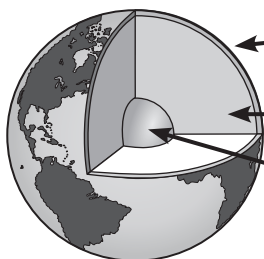
Groups of Rocks	A. Type	B. Formed From
Igneous “fiery”	13. _____	14. _____ that cools slowly underground
	15. _____	16. _____ that cools over many months or years
	17. _____	18. _____ that cools quickly and is filled with gases
Sedimentary “settling to the bottom”	19. _____	20. bones and _____
	21. _____	22. hardened mud or _____
	23. _____	24. pressed hardened _____
Metamorphic “going through a change”	25. _____	26. changed from _____
	27. _____	28. changed from _____



We Remember

- E** Complete the exercise.

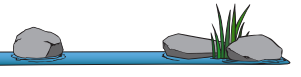
29. Write *core*, *crust*, or *mantle* to identify each part of the earth.



- a. _____ thin outer layer
b. _____ middle layer
c. _____ center



Lesson 2



F Write a vocabulary word from the box to complete each sentence.

crust fault lava magma plate

30. The _____ below the earth's crust is under great pressure.
31. Hot _____ spreads from the vents of Mount Kilauea, a volcano in Hawaii.
32. Most of the Pacific Ocean rests on a huge _____, and many volcanoes occur around its edges.
33. Earthquakes have occurred at a _____ in California, along the edge of the Pacific Plate. At some places, this crack can be seen above the ground.
34. The earth's _____ has three layers: topsoil, subsoil, and bedrock.

G Place a check mark beside the answers to each question.

35. Which three statements are true about earthquakes?
 - a. ____ Plates in the crust get stuck at a fault.
 - b. ____ Pressure builds until the plates slip.
 - c. ____ Earthquakes send out gases and lava.
 - d. ____ Earthquakes can shake the ground for many miles.
36. Which three statements are true about volcanoes?
 - a. ____ All volcanoes form the same way.
 - b. ____ Volcanoes send out gases, ash, and lava.
 - c. ____ Volcanoes occur at thin places in the crust and at faults.
 - d. ____ When a volcano erupts, magma escapes from underground.

Treasures in the Earth's Crust

Textbook pages 142-145 | Lesson **3**



 Read 7.3 “Treasures in the Earth’s Crust” on pages 142-145 of the textbook.



Exploring the Lesson

A Write the vocabulary word that matches each definition.

1. _____ to break down or wear away gradually
2. _____ a substance with a pattern of smooth hard surfaces
3. _____ a natural mixture of minerals and metals that can be mined
4. _____ a nonliving substance that forms crystals and is found in the earth

B Write the name of each resource in its correct category.

gold diamond mica platinum quartz ruby salt silver

Minerals	Gemstones	Precious Metals
5. _____ _____ _____	6. _____ _____	7. _____ _____ _____

C Write the letter of each natural resource beside its description.

8. ____ a mineral found in sand; used to make glass
9. ____ a gemstone with smooth, hard surfaces; sometimes used inside watches
10. ____ a precious metal that does not corrode easily; used to remove fumes from vehicle exhaust

a. platinum
b. quartz
c. ruby



Lesson 3



D Complete each sentence with a natural resource from the word box.

Some words will be used twice.

diamond gold mica salt silver

11. Because _____ brings out flavor, it is added to many types of food.
12. Because _____ splits into shiny flakes, it is used to add a shimmer to paints and glazes.
13. Because _____ melts snow and ice, it is used on roads in winter.
14. Because _____ is the hardest mineral, it makes strong drill bits and saw blades.
15. Because _____ can be formed into thin sheets, it is sometimes used to cover domes on important buildings.
16. Because _____ reflects light well, it is used in some mirrors.
17. Because _____ reflects heat rays, it is used to protect space equipment.
18. Because _____ helps prevent infection, it is used in some bandages.

E Circle the letter of the true statement in each set.

19. a. Minerals are living things found in the earth.
b. Minerals are not made of plant or animal materials.
20. a. Gemstones are beautiful minerals that can be cut and polished.
b. Gemstones are a type of precious metal found in the earth's crust.
21. a. Precious metals are a type of rare mineral.
b. Precious metals are often made into coins and jewelry.

F Number the steps of removing metal from ore.

22. a. ____ The melted metal is separated from the ore.
b. ____ The ore is crushed and heated to melt the metal.
c. ____ Miners dig ore from the ground.



We Remember

G Write the missing words to complete each sentence.

23. Metamorphic rocks are changed by intense _____ and _____ .
24. Igneous rocks are formed from hot, liquid _____ that has cooled.
25. Sedimentary rocks are formed from _____, _____, or the remains of living things.

H Write the letter of each group of rocks beside its examples.

26. ____ marble, slate
27. ____ limestone, sandstone, shale
28. ____ basalt, granite, pumice

- a. igneous
b. metamorphic
c. sedimentary

I Write the definition of the vocabulary word.

29. **natural resource:** _____
