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Skills Worksheet

Directed Reading A

Section: Inside the Earth

1. The Earth is composed of several _____.

THE COMPOSITION OF THE EARTH

_____ **2.** A substance composed of two or more elements is a(n)

a. mix.
b. amalgam.
c. compound.
d. complex.

3. Why do less dense compounds make up Earth's crust while the densest compounds make up the core?

_____

_____

4. List the three layers of the Earth, based on their chemical composition.

_____

_____

_____

5. What three elements make up most of the Earth's crust?

_____

_____

_____

6. Oceanic crust is denser than the continental crust because it contains more of which three elements?

_____

_____

_____

7. The mantle is composed of more of the element _____ than the crust is.

8. Why do scientists look to the ocean floor to research the mantle?

_____

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Directed Reading A *continued*

9. The mantle has less aluminum and less _____ than the crust does.

10. What element makes up most of the Earth's core?

_____

_____

11. How much of the Earth's mass is made up by the core?

_____

_____

THE PHYSICAL STRUCTURE OF THE EARTH

Match the correct description with the correct term. Write the letter in the space provided.

_____**12.** the outermost, rigid layer of the Earth

_____**13.** a layer of slowly flowing rock in the mantle

_____**14.** the liquid layer of the core

_____**15.** the solid layer of the core

_____**16.** the strong, lower part of the mantle

a. asthenosphere
b. lithosphere
c. mesosphere
d. outer core
e. inner core

TECTONIC PLATES

_____**17.** Large pieces of the lithosphere that move around on the asthenosphere are called
a. mantle pieces.
b. crust pieces.
c. tectonic plates.
d. puzzle pieces.

18. Why are tectonic plates like the pieces of a jigsaw puzzle?

_____

_____

19. What are the two kinds of crust that a tectonic plate may contain?

_____

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20. List three ways in which tectonic plates floating on the asthenosphere are similar to ice cubes filling a punch bowl.

_____

_____

_____

MAPPING THE EARTH'S INTERIOR

_____**21.** What do scientists use to study Earth's interior?

- **a.** sea-floor spreading rates
- **b.** magnetic reversals
- **c.** global positioning system
- **d.** seismic waves

_____**22.** What are seismic waves?

- **a.** movements in the outer core
- **b.** pictures of the Earth's interior
- **c.** vibrations from an earthquake
- **d.** vibrations from a seismograph

23. Will a seismic wave traveling through a solid go faster or slower than a seismic wave traveling through liquid? Explain your answer.

_____

_____

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Skills Worksheet

Section Review

Inside the Earth

USING KEY TERMS

For each pair of terms, explain how the meanings of the terms differ.

1. *crust* and *mantle*

_____

_____

2. *lithosphere* and *asthenosphere*

_____

_____

UNDERSTANDING KEY IDEAS

_____ **3.** The part of the Earth that is molten is the
- **a.** crust.
- **b.** mantle.
- **c.** outer core.
- **d.** inner core.

_____ **4.** The part of the Earth on which the tectonic plates move is the
- **a.** lithosphere.
- **b.** asthenosphere.
- **c.** mesosphere.
- **d.** crust.

5. Identify the layers of the Earth by their chemical composition.

_____

_____

6. Identify the layers of the Earth by their physical properties.

_____

_____

7. Describe a tectonic plate.

_____

_____

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Section Review *continued*

8. Explain how scientists know about the structure of the Earth's interior.

_____

_____

INTERPRETING GRAPHICS

9. According to the wave speeds shown in the table below, which two physical layers of the Earth are densest?

Speed of Seismic Waves in Earth's Interior	
Physical layer	**Wave speed**
Lithosphere	7 to 8 km/s
Asthenosphere	7 to 11 km/s
Mesosphere	11 to 13 km/s
Outer core	8 to 10 km/s
Inner core	11 to 12 km/s

_____

_____

CRITICAL THINKING

10. Making Comparisons Explain the difference between the crust and the lithosphere.

_____

_____

_____

_____

11. Analyzing Ideas Why does a seismic wave travel faster through solid rock than through water?

_____

_____

_____

_____