

Active Reading

Chapter 3 Section 1: The Geosphere

Read the passage below and answer the questions that follow.

If we consider the physical properties of each layer, instead of chemistry, the Earth can be divided into five layers. Earth's outer layer is the lithosphere. It is a cool, rigid layer, 15 km to 300 km thick, and includes the crust and uppermost part of the mantle. It is divided into huge pieces called tectonic plates. The asthenosphere is the layer beneath the lithosphere. The asthenosphere is a plastic, solid layer of the mantle made of rock that flows very slowly and allows tectonic plates to move on top of it. Beneath the asthenosphere is the mesosphere, the lower part of the mantle. The Earth's outer core is a dense liquid layer. At the center of the Earth is the dense, solid inner core, which is made up mostly of the metals iron and nickel. The temperature of the inner core is estimated to be between 4,000°C to 5,000°C. It is solid because it is under enormous pressure. Earth's outer and inner core together make up about one-third of Earth's mass.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

_____ 1. Earth can be divided into how many physical layers?

- a. five
- b. three
- c. eight
- d. six

_____ 2. The approximate temperature of the inner core is

- a. between 3,000°C and 4,000°C.
- b. between 4,000°F and 5,000°F.
- c. between 4,000°C and 5,000°C.
- d. unknown.

_____ 3. The inner core is solid because

- a. it absorbs heat from the sun.
- b. it is under tremendous pressure.
- c. it is influenced by global warming.
- d. the movement of tectonic plates causes friction.

_____ 4. One-third of Earth's mass is made up of what?

- a. Earth's outer core
- b. Earth's inner core
- c. tectonic plates
- d. both (a) and (b)

VOCABULARY DEVELOPMENT

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|--------------------------|---|
| _____ 5. lithosphere | a. dense layer made of iron and nickel |
| _____ 6. mesosphere | b. rigid layer that includes crust and upper mantle |
| _____ 7. tectonic plates | c. plastic, solid layer of slow-flowing rock |
| _____ 8. inner core | d. lower part of mantle |
| _____ 9. asthenosphere | e. huge pieces of the lithosphere |
| _____ 10. outer core | f. dense liquid layer |

SEQUENCING INFORMATION

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

Write the names of the Earth's physical layers in sequence, from the outermost layer to the innermost layer

11. _____
12. _____
13. _____
14. _____
15. _____

RECOGNIZING SIMILARITIES AND DIFFERENCES

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

Read the following question and write the answer in the space provided.

16. How are the outer core and the inner core alike?

How are they different?

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

Read the following question and write the answer in the space provided.

17. Why do the tectonic plates move?