



Earth's Layers

Name: _____

Date: _____

Grade: Grade 5

Part A: Multiple Choice

Circle the best answer for each question.

1. If Earth's outer core suddenly became solid, what would most likely happen?

- A) Volcanoes would erupt more frequently around the world.
- B) Earth would lose its magnetic field, leaving us unprotected from solar radiation.
- C) The mantle would stop flowing and earthquakes would increase.
- D) The inner core would melt because pressure would decrease.

2. A volcano erupts on an island in the Pacific Ocean. Which layers of Earth are most directly involved in this event?

- A) Only the crust, because lava flows on the surface.
- B) The crust and mantle, because magma rises from the mantle through cracks in the crust.
- C) The outer core and inner core, because they produce the heat.
- D) All four layers equally, because heat travels evenly through Earth.

3. Why do scientists say that Earth's layers act like a system where each part affects the others?

- A) Because all four layers are made of the same material.
- B) Because heat from the core drives mantle convection, which moves crustal plates, causing surface events.
- C) Because earthquakes happen in every layer at the same time.
- D) Because the crust controls the temperature of all deeper layers.

4. Two cities are the same distance from an earthquake. City A is on solid granite bedrock and City B is on soft sediment. Which city likely felt stronger shaking and why?

- A) City A, because granite carries seismic waves faster and with more energy.
- B) City B, because soft sediment amplifies seismic waves and shakes more.
- C) Both cities felt the same shaking because distance is the only factor.
- D) City A, because granite is heavier and vibrates more during earthquakes.

Part B: Fill in the Blank

Write the correct answer on each line.

1. Without Earth's magnetic field, harmful _____ from the Sun would reach the surface.

2. The Hawaiian Islands were formed by a hot _____ of magma rising from deep in the mantle.

Part A: Multiple Choice

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Part B: Fill in the Blank

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1. Without Earth's magnetic field, harmful radiation from the Sun would reach the surface.
2. The Hawaiian Islands were formed by a hot plume of magma rising from deep in the mantle.
3. Scientists believe Earth's magnetic poles have reversed many times throughout history.