Vocabulary and Section Summary

SECTION: INSIDE THE EARTH

1. crust: the thin and solid outermost layer of the Earth above the mantle
2. mantle: the layer of rock between the Earth's crust and core
3. core: the central part of the Earth below the mantle
4. lithosphere: the solid, outer layer of the Earth that consists of the crust and the rigid upper part of the mantle
5. asthenosphere: the soft layer of the mantle on which the tectonic plates move
6. mesosphere: the strong, lower part of the mantle between the asthnosphere and the outer core
7. tectonic plate: a block of lithosphere that consists of the crust and the rigid, outermost part of the mantle

SECTION: RESTLESS CONTINENTS

1. continental drift: the hypothesis that states that the continents once formed a single landmass, broke up, and drifted to their present locations
2. sea-floor spreading: the process by which new oceanic lithosphere forms as magma rises toward the surface and solidifies

SECTION: THE THEORY OF PLATE TECTONICS

1. plate tectonics: the theory that explains how large pieces of the Earth's outermost layers, called *tectonic plates*, move and change shape
2. convergent boundary: the boundary formed by the collision of two lithospheric plates
3. divergent boundary: the boundary between two tectonic plates that are moving away from each other
4. transform boundary: the boundary between tectonic plates that are sliding past each other horizontally

SECTION: DEFORMING THE EARTH'S CRUST

1. compression: stress that occurs when forces act to squeeze an object
2. tension: stress that occurs when forces act to stretch an object
3. folding: bending of rock layers due to stress
4. fault: a break in a body of rock along which one block slides relative to another
5. uplift: the rising of the regions of the Earth's crust to higher elevations
6. subsidence: the sinking of regions of the Earth's crust to lower elevations

Section Review

SECTION: INSIDE THE EARTH

1. Sample answer: The crust is the thin, outermost layer of the Earth. It is made mainly of less dense compounds and is less than 1% of the Earth's mass. The mantle is a thick layer beneath the crust. The mantle is made of dense compounds and is 67% of the Earth's mass.
2. Sample answer: The lithosphere is rigid and is divided into tectonic plates. The asthenosphere is a layer of soft mantle material that flows very slowly.
3. C
4. B
5. The crust is made mainly of the elements oxygen, silicon, and aluminum. The mantle has more magnesium and less aluminum and silicon than the crust has; the core is made mostly of iron.
6. The lithosphere is the outermost, rigid layer of the Earth. Beneath the lithosphere is the asthenosphere, a plastic layer of the mantle on which the lithosphere moves. The mesosphere is the strong, lower part of the mantle. The outer core is the liquid layer of the Earth's core that lies between the mantle and the inner core. The solid, dense center of our planet is the inner core.
7. A tectonic plate is a large piece of the Earth's lithosphere that moves slowly on the top of the asthenosphere.

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