1 Chapter Review

the BIG idea

The movement of tectonic plates causes geologic changes on Earth.

CONTENT REVIEW
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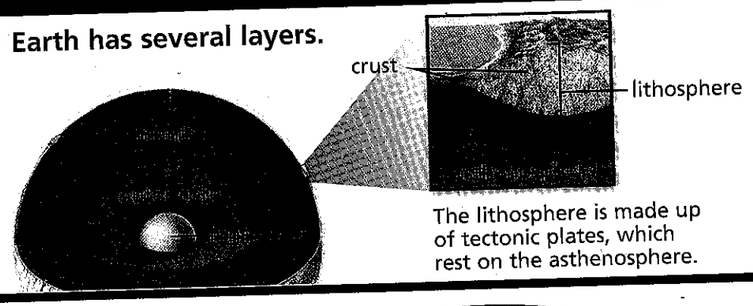
KEY CONCEPTS SUMMARY

1.1 Earth has several layers.

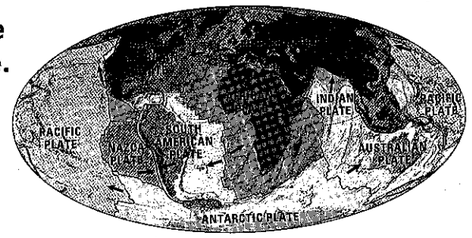


The lithosphere is made up of tectonic plates, which rest on the asthenosphere.

VOCABULARY
inner core p. 10
outer core p. 10
mantle p. 11
crust p. 11
lithosphere p. 11
asthenosphere p. 11
tectonic plate p. 12

1.2 Continents change position over time.

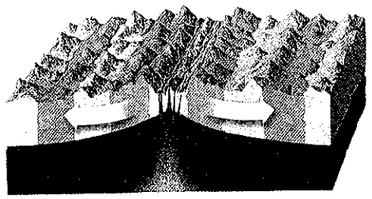
Gravity and motions in the asthenosphere move tectonic plates over Earth's surface.



VOCABULARY
continental drift p. 14
Pangaea p. 16
mid-ocean ridge p. 16
convection p. 17
convection current p. 17
theory of plate tectonics p. 18

1.3 Plates move apart.

New crust is formed at divergent boundaries. Features include:
- mid-ocean ridges
- records of magnetic reversals
- rift valleys

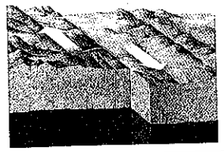


VOCABULARY
divergent boundary p. 22
convergent boundary p. 22
transform boundary p. 22
rift valley p. 23
magnetic reversal p. 24
hot spot p. 27

1.4 Plates converge or scrape past each other.

Crust is destroyed or folded at convergent boundaries.
- Subduction boundaries form island arcs, deep-ocean trenches, and coastal mountains.
- Collision boundaries can form mountains.

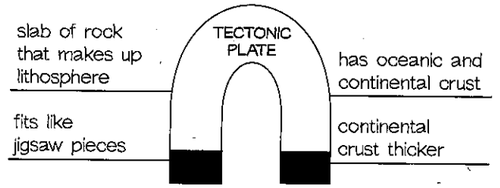
Crust is neither formed nor destroyed at transform boundaries.



VOCABULARY
subduction p. 30
continental-continental collision p. 31
oceanic-oceanic subduction p. 32
oceanic-continental subduction p. 33

Reviewing Vocabulary

Make a magnet word diagram for each of the vocabulary terms listed below. Write the term in the magnet. Write other terms or ideas related to it on the lines around the magnet.



1. mantle
2. lithosphere
3. mid-ocean ridge
4. convection current
5. divergent boundary
6. convergent boundary

Reviewing Key Concepts

Multiple Choice *Choose the letter of the best answer.*

7. Which of the following best describes Earth's mantle?
   - **a.** the densest of Earth's layers
   - **b.** the home of all life on Earth
   - **c.** the thickest layer of hot rock
   - **d.** the thinnest and hottest layer

8. Tectonic plates make up Earth's
   - **a.** lower mantle
   - **b.** lithosphere
   - **c.** asthenosphere
   - **d.** inner core

9. Why did many scientists reject Wegener's continental drift hypothesis?
   - **a.** He could not explain how the continents moved.
   - **b.** The geology of continents did not support his hypothesis.
   - **c.** Fossil evidence showed that the continents were never joined.
   - **d.** The climates of the continents have remained the same.

10. What evidence from the sea floor shows that tectonic plates move?
    - **a.** The sea floor is much older than any of the continents.
    - **b.** The sea floor is youngest near a mid-ocean ridge and older farther away.
    - **c.** Mid-ocean ridges circle Earth like seams in a baseball.
    - **d.** The sea floor is thinner than continental crust.

11. A mid-ocean ridge forms where plates
    - **a.** move apart
    - **b.** push together
    - **c.** scrape past each other
    - **d.** subduct

12. Plate motion is caused partly by
    - **a.** magnetic reversals
    - **b.** convection currents
    - **c.** continental drift
    - **d.** volcanic hot spots

13. Which of the following is formed at a collision zone?
    - **a.** mountain range
    - **b.** volcanic island chain
    - **c.** deep-ocean trench
    - **d.** continental rift valley

14. What happens when two oceanic plates meet?
    - **a.** Both plates sink into the asthenosphere.
    - **b.** The colder, denser plate sinks.
    - **c.** Both plates fold the rock between them.
    - **d.** One plate slides past the other.

15. Where is crust neither formed nor destroyed?
    - **a.** mid-ocean ridge
    - **b.** continental rift valley
    - **c.** transform boundary
    - **d.** subduction zone

Short Answer *Write a short answer to each question.*

16. How does the theory of plate tectonics help geologists predict future geologic events?

17. How do rocks record changes in Earth's magnetic field?

18. Explain what happens when a continental plate splits apart.