Plate Tectonics 7-3

Modified True/False
Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 1. According the theory of plate tectonics, plates interact at plate boundaries by reflecting each other, moving away from each other, or sliding past each other. _____

____ 2. If a continental plate and a continental plate converge, a subduction zone forms. _____

____ 3. The circulation of material caused by differences in density is called subduction. _____

____ 4. The density of a subducting plate helps to pull the lithosphere into a subduction zone in a process called ridge push. _____

Multiple Choice
Identify the choice that best completes the statement or answers the question. Write the letter of your choice on the blank line.

____ 1. Plates of the lithosphere float on the ____.
a. crust
b. asthenosphere
c. core
d. lower mantle

____ 2. The result of plate movement can be seen at ____.
a. abyssal plains
b. plate boundaries
c. plate centers
d. ocean margins

____ 3. Plates slide past one another at ____.
a. subduction zones
b. divergent boundaries
c. mid-ocean ridges
d. transform boundaries

____ 4. The boundary between two plates moving together is called a ____.
a. divergent boundary
b. lithosphere boundary
c. transform boundary
d. convergent boundary

____ 5. ____ currents inside Earth might drive plate motion.
a. Vertical
b. Convection
c. Horizontal
d. none of the above

____ 6. Scientists believe that differences in ____ cause hot, plasticlike rock in the asthenosphere to rise toward Earth's surface.
a. weight
b. magnetism
c. density
d. composition

____ 7. In order to complete a convection current, the rising material must eventually ____ Earth.
a. stop inside
b. freeze
c. warm
d. sink back into

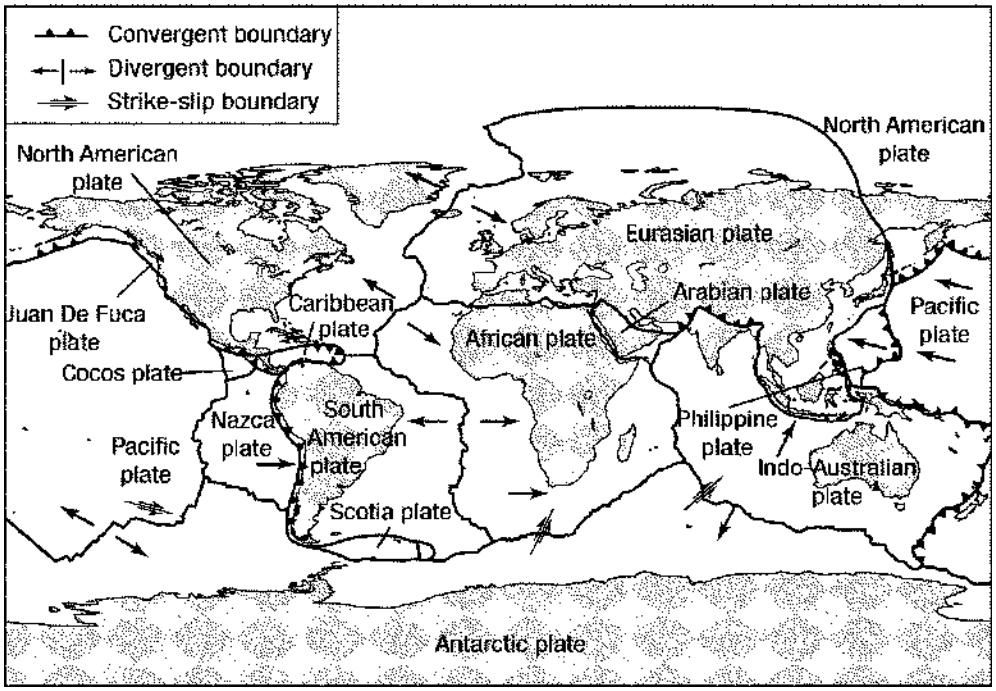
____ 8. The East African Rift is an example of a ____.
a. mid-ocean ridge
b. divergent boundary
c. convergent boundary
d. transform boundary

____ 9. The Himalayan mountain range of India was formed at a ____.
a. divergent boundary
b. convergent boundary
c. hot spot
d. transform boundary

____ 10. ____ are formed when two continental plates collide.
a. Mid-Ocean Ridges
c. Trenches

b. Mountain ranges
d. Rift valleys

____ 11. The ____ is (are) an example of a transform boundary.
a. Appalachian Mountains
b. San Andreas Fault
c. Mid-Atlantic Ridge
d. Himalayas



____ 12. What type of plate boundary occurs between the North American Plate and the Eurasian Plate, shown in the figure above?
a. divergent boundary
b. transform boundary
c. convergent oceanic-continental plate boundary
d. convergent oceanic-oceanic plate boundary

____ 13. What type of plate boundary occurs between the Nazca Plate and the South American Plate, shown in the figure above?
a. convergent oceanic-continental plate boundary
b. convergent oceanic-oceanic plate boundary
c. convergent continental-continental plate boundary
d. transform boundary

____ 14. At an oceanic-oceanic convergent plate boundary, ____.
a. new crust is created
b. the crust separates
c. the older denser crust is subducted
d. plates side past one another

____ 15. The downward part of a convection current causes a sinking force that ____.
a. pulls tectonic plates toward one another
b. moves plates apart from one another
c. lifts and splits the lithosphere
d. creates a divergent boundary

____ 16. Features found at divergent plate boundaries include ____.
a. mid-ocean ridges
b. deep-sea trenches
c. subduction zone
d. abyssal plains

____ 17. Crust is neither destroyed nor formed along which of the following boundaries?
a. convergent
b. divergent
c. deep ocan trench
d. transform

____ 18. The driving forces of tectonic plates are related to convection currents in Earth's ____.
a. crust
b. outer core
c. inner core
d. mantle

Short Answer (4 points)

1. A seventh grade scientist was climbing Mt Everest, the tallest mountain in the world. At the top of the mountain they found a fossil of an organism that once lived in the ocean. Explain how that is possible.

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Plate Tectonics 7-3
Answer Section

MODIFIED TRUE/FALSE

1. ANS: F, coming toward each other

   PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-5
   STA: 5.4.6.D.1 | 5.4.8.D.2
2. ANS: F, mountain

   PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
   STA: 5.4.6.D.1 | 5.4.8.D.2
3. ANS: F, convection

   PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
   STA: 5.2.6.A.2
4. ANS: F, slab pull

   PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
   STA: 5.4.6.D.1

MULTIPLE CHOICE

1. ANS: B
   The layer of Earth below the lithosphere is called the asthenosphere.

   PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
   STA: 5.4.6.D.2 | 5.4.8.D.2
2. ANS: B
   When plates separate, collide, or slide past each other along a plate boundary, stress builds.

   PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
   STA: 5.4.6.D.2 | 5.4.8.D.2
3. ANS: D
   A transform plate boundary forms where two plates slide past each other.

   PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
   REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
   STA: 5.4.6.D.2 | 5.4.8.D.2
4. ANS: D
   Convergent plate boundaries form where two plates collide.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.6.D.2 | 5.4.8.D.2

5. ANS: B
Convection in the mantle is related to plate tectonic activity.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.8.D.2

6. ANS: C
As the mantle cools, it becomes denser and then sinks, forming a convection current. These currents in the asthenosphere act like a conveyor belt moving the lithosphere above it.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.2.6.A.2

7. ANS: D
Thermal energy—heat is transferred from hot mantle material to the colder surface above. As the mantle cools, it becomes denser and then sinks, forming a convection current.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.8.D.2

8. ANS: B
The East African Rift is an example of a continental rift.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.8.D.2

9. ANS: B
Convergent plate boundaries can also occur where two continental plates collide. Because both plates are equally dense, neither plate will subduct. Both plates uplift and deform. This creates huge mountains like the Himalayas.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.8.D.2

10. ANS: B
Mountains can form where two continents collide.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.8.D.2

11. ANS: B
The famous San Andreas Fault in California is an example of a transform plate boundary.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.8.D.2

12. ANS: A
When two plates separate and create new oceanic crust, a divergent plate boundary forms.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.6.D.1 | 5.4.8.D.2

13. ANS: A
When an oceanic and a continental plate collide, they form a convergent plate boundary.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.6.D.1 | 5.4.8.D.2

14. ANS: C
Two oceanic plates can also collide. The denser plate will subduct.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.6.D.1 | 5.4.8.D.2

15. ANS: A
Convection occurs in the mantle underneath Earth's tectonic plates. Three forces act on plates to make them move: basal drag from convection currents, ridge push at midocean ridges, and slab pull from subducting plates.

PTS: 1 DIF: Bloom's Level 3 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.6.D.1 | 5.4.8.D.2

16. ANS: A
Mid-ocean ridges are located along divergent plate boundaries.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.6.D.1 | 5.4.8.D.2

17. ANS: D
A transform plate boundary forms where two plates slide past each other.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6
STA: 5.4.6.D.1 | 5.4.8.D.2

18. ANS: D
Convection in the mantle is related to plate tectonic activity.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW
REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7
STA: 5.4.6.D.1 | 5.4.8.D.2

SHORT ANSWER

1. ANS:

The surface of the Earth has been changing for billions of years. Due to the forces of plate tectonics a seafloor from long ago may become a mountain top. Converging continental and oceanic plates could make mountains out of seafloor. Etc.

PTS: 1