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 <u>reflecting each other</u> , moving away from each other, or sliding past each other.
 2.	If a <u>continental</u> plate and a continental plate converge, a subduction zone forms.
 3.	The circulation of material caused by differences in density is called <u>subduction</u> .
 4.	The density of a subducting plate helps to pull the lithosphere into a subduction zone in a process called <u>ridge</u> <u>push</u> .

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.	The crust and upper mantle make up Earth's		
	a. lithosphere	c.	core
	b. asthenosphere	d.	continents
 2.	Scientists have observed that the continents mo	ove a	apart or come together at speeds of a few centimeters per
	a. year	c.	day
	b. decade	d.	century
 3.	Plates of the lithosphere float on the		
	a. crust	c.	core
	b. asthenosphere	d.	atmosphere
 4.	The result of plate movement can be seen at		
	a. abyssal plains	c.	plate centers
	b. plate boundaries	d.	ocean margins
 5.	The hypothesis that continents have slowly mo	ved	to their current locations is called
	a. magnetic reversal	c.	continental drift
	b. continental slope	d.	convection
 6.	Plates move apart at boundaries.		
	a. convergent	c.	divergent
	b. stable	d.	transform
7.	Plates slide past one another at .		
	a. subduction zones	c.	convection currents
	b. divergent boundaries	d.	transform boundaries
8.	The boundary between two plates moving toge	ther	is called a .
	a. divergent boundary	c.	transform boundary
	b. lithosphere	d.	convergent boundary
9.	Seafloor spreading occurs because .		
	a. new material is being added to the astheno	sphe	ere
	b. earthquakes break apart the ocean floor	•	
	c. sediments accumulate at the area of spread	ing	
	d. molten material beneath Earth's crust rises	to tl	he surface

 10.	Continental drift states that continents have mo	ved	to their current location.
	a. vertically	c.	quickly
	b. horizontally	d.	slowly
11.	Wegener believed that the continents were asse	mbl	led as part of a supercontinent about years ago.
	a. 250 million	c.	450 million
	b. 350 million	d.	650 million
12.	currents inside Earth might drive plate mo	otioi	1.
	a. Vertical	c.	Horizontal
	b. Convection	d.	none of the above
13.	Scientists believe that differences in cause	e ho	t, plasticlike rock in the asthenosphere to rise toward
	Earth's surface.		, r
	a. weight	c.	density
	b. magnetism	d.	composition
14	In order to complete a convection current the r	isin	g material must eventually Earth
 1	a stop inside	c	warm
	h freeze	d.	sink back into
15	The East A frican Diff is an axample of a	u.	
 15.	a mid-ocean ridge	C	convergent boundary
	b divergent boundary	d.	transform boundary
16	The Himeleven mountain range of India was fo	u.	and at a
 10.	divergent boundary	onne	hot spot
	a. divergent boundary	с. d	transform boundary
17	on formed when two continents a plates of	u. - 11: -	
 1/.	are formed when two continental plates of		IC.
	a. voicanoes	C.	Diff voltava
10		u. 1	Kitt valleys
 18.	The is (are) an example of a transform bo	und	ary.
	a. Appalachian Mountains	С.	Mid-Atlantic Ridge
	D. San Andreas Fault	a.	Himalayas
	ſ <u>·</u>		
	Convergent boundary		
	Divergent boundary		
			North American
	North American		plate
	plate plate	=	England
	Press V press	Ç.,	Furasian niste
	The second second	· /•	2 2 2 4
	Earippear Lag	្ម្	Arabian plate
	Juan De Fuca	late)	plate
	Cocos plate		
		្ទុះ	
	Pacific Anterican		Philippine
	plate plate	Z	Indo-Australian
	Scotia plate		plate dia
		/	· · ·
			E
	Antarctic pl	ate	

- 19. 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
- 20. 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
- 21. The youngest part of the ocean floor is found _____.
 - a. along deep sea trenches
 - b. where ocean sediments are thickest
 - c. near ocean ridges

a. new crust is created

- d. where Earth's magnetic field changes polarity
- 22. At an oceanic-oceanic convergent plate boundary,
 - c. the older crust is recycled by subduction
 - b. the crust separates d. plates side past one another
- 23. 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
- 24. Features found at divergent plate boundaries include
 - a. mid-ocean ridges c. crumpled mountains
 - b. deep-sea trenches d. island arc volcanoes
 - 25. Crust is neither destroyed nor formed along which of the following boundaries?
 - a. convergent c. magnetic
 - b. divergent
- 26. The driving forces of tectonic plates are related to convection currents in Earth's _____.
 - a. crust
 - b. outer core

Matching

- Match each term with the correct statement below.
- a. mid-ocean ridge

- b. convergent plate boundary
- c. asthenosphere
- 1. Earth's plasticlike layer is the .
- 2. Plates collide together at a(n) _____.
- 3. One plate is forced under another in a(n)
- 4. A(n) is an underwater mountain chain.
- 5. The main points of evidence for are fossils, rocks, and climate.
- d. subduction zone e. continental drift
- d. transform
- 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.

Plate Tectonics 7-3 Answer Section

MODIFIED TRUE/FALSE

1.	ANS:	F, coming toward each other
2.	PTS: REF: STA: ANS:	1 DIF: Bloom's Level 2 DOK 1-LOW To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-5 5.4.6.D.1 5.4.8.D.2 F, oceanic
3.	PTS: REF: STA: ANS:	1 DIF: Bloom's Level 2 DOK 1-LOW To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-6 5.4.6.D.1 5.4.8.D.2 F, convection
4.	PTS: REF: STA: ANS:	1 DIF: Bloom's Level 2 DOK 1-LOW To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-7 5.2.6.A.2 F, slab pull
	PTS: REF: STA:	1DIF:Bloom's Level 2 DOK 1-LOWTo review this topic refer to Plate Tectonics: Lesson 3OBJ:7-75.4.6.D.1

MULTIPLE CHOICE

1. ANS: A

The cold and rigid outermost rock layer is called the lithosphere. It is made up of the crust and the solid, uppermost mantle.

2	PTS: REF: STA:	1DIF:Bloom's Level 1 DOK 1-LOWTo review this topic refer to Plate Tectonics: Lesson 3OBJ:7-55.4.6.B.1 5.4.6.D.1A
2.	Contir	pents move apart or come together at speeds of a few centimeters per year
	Contin	ients move upart of come together at speeds of a few contineters per year.
	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
3.	ANS:	В
	The la	yer 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
4.	ANS:	В

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 5. ANS: C Wegener proposed the hypothesis of continental drift, which suggested that continents are in constant motion on the surface of Earth. DIF: Bloom's Level 1 | DOK 1-LOW PTS: 1 REF: To review this topic refer to Plate Tectonics: Lesson 1 OBJ: 7-2 STA: 5.4.6.D.2 | 5.4.8.D.2 6. ANS: C A divergent plate boundary forms where two plates separate. DIF: Bloom's Level 1 | DOK 1-LOW PTS: 1 REF: To review this topic refer to Plate Tectonics: Lesson 3 OBJ: 7-5 STA: 5.4.6.D.2 | 5.4.8.D.2 7. 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 8. 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 9. ANS: D When the seafloor spreads, the mantle below melts and forms magma. Because magma is less dense than solid mantle material, it rises through cracks in the crust along the midocean ridge. PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW REF: To review this topic refer to Plate Tectonics: Lesson 2 OBJ: 7-3 STA: 5.4.6.C.2 | 5.4.6.C.3 10. ANS: D Over time Pangaea began breaking apart, and the continents slowly moved to their present positions. PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW REF: To review this topic refer to Plate Tectonics: Lesson 1 OBJ: 7-2 STA: 5.4.8.D.2 11. ANS: A When Wegener pieced Pangaea together, he proposed that South America, Africa, India, and Australia were located closer to the South Pole 250 million years ago. PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW REF: To review this topic refer to Plate Tectonics: Lesson 1 OBJ: 7-2 STA: 5.4.8.D.2

12.	ANS: B Convection in the mantle is related to plate tectonic activity.					
13.	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 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.					
14.	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 ANS: D					
1.11	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.					
1.5	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					
15.	ANS: B The East African Rift is an example of a continental rift.					
16.	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 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.					
17.	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 ANS: B					
	Mountains can form where two continents collide.					
18.	PTS:1DIF:Bloom's Level 1 DOK 1-LOWREF:To review this topic refer to Plate Tectonics: Lesson 3OBJ:7-6STA:5.4.8.D.2ANS:B					
	The famous San Andreas Fault in California is an example of a transform plate boundary.					
19.	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 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 20. 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 21. ANS: C The closer the crust is to a mid-ocean ridge, the younger the oceanic crust is. DIF: Bloom's Level 2 | DOK 1-LOW PTS: 1 REF: To review this topic refer to Plate Tectonics: Lesson 2 OBJ: 7-4 STA: 5.4.6.D.1 | 5.4.8.D.2 22. ANS: C Two oceanic plates can also collide in either scenario. 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 23. 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 24. ANS: A Mid-ocean ridges are located along divergent plate boundaries. DIF: Bloom's Level 1 | DOK 1-LOW PTS: 1 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 25. ANS: D A transform plate boundary forms where two plates slide past each other. DIF: Bloom's Level 2 | DOK 1-LOW PTS: 1 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 26. ANS: D Convection in the mantle is related to plate tectonic activity. DIF: Bloom's Level 2 | DOK 1-LOW PTS: 1 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

MATCHING

- 1. ANS: C 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.C.3 | 5.4.6.D.1 | 5.4.8.D.2
- 2. ANS: B 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.C.3 | 5.4.6.D.1 | 5.4.8.D.2
- 3. ANS: D 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.C.3 | 5.4.6.D.1 | 5.4.8.D.2
- 4. ANS: A PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW REF: To review this topic refer to Plate Tectonics: Lesson 2 OBJ: 7-4 STA: 5.4.6.C.3 | 5.4.6.D.1 | 5.4.8.D.2
- 5. ANS: E PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW REF: To review this topic refer to Plate Tectonics: Lesson 1 OBJ: 7-1 STA: 5.4.6.C.3 | 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