

Please do not write
on the test

Science Grade 8 Unit 07: Forces that Change the Earth 2012-2013

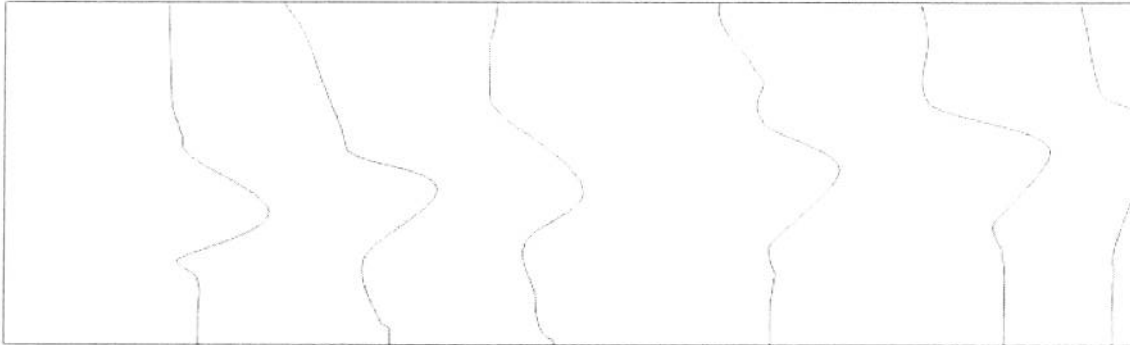
Each question is
worth 4 points

Good luck!



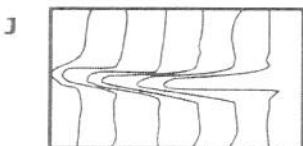
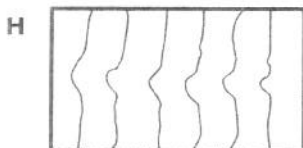
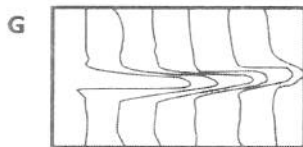
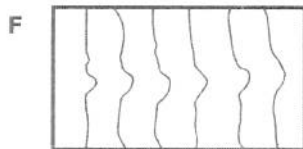
- 1 Which of these landforms would MOST likely be found at a divergent boundary?
- ~~A~~ fault line
 - ~~B~~ mid-ocean ridge
 - ~~C~~ volcanic island
 - ~~D~~ mountain
- 2 Which scientist is credited for first proposing Continental Drift Theory?
- F Albert Einstein
 - G Alfred Wegner
 - H Abraham Ortelius
 - J Harry Hess
- 3 Which two continents did Alfred Wegener think looked like they fitted together like puzzle pieces?
- A North America and South America
 - B Europe and Africa
 - C North America and Europe
 - D South America and Africa
- 4 Which of these landforms is MOST likely to be found at a convergent boundary?
- F fault line
 - G mid-ocean ridge
 - H mountain
 - J rift valley
- 5 Which of the following geographical features could form when two plates collide?
- A trench
 - B mid-ocean ridge
 - C transform fault
 - D delta
- 6 The Ring of Fire has formed a volcanic island chains in the Pacific Ocean. What has caused this to happen?
- F convergent plate boundary
 - G divergent plate boundary
 - H transform plate boundary
 - J mantle hot spot
- 7 Scientists believe that the _____ is responsible for the movement of the plates that form the Earth's crust.
- A athenosphere
 - B lithosphere
 - C inner core
 - D outer core
- 8 The MOST recently formed crust of the Earth would be found—
- F where plates moving sideways passed each other
 - G where one plate is going under another plate
 - H where two plates are pushing directly toward each other
 - J where two plates are moving away from each other in opposite directions

- 9 Using the piece of topographic map below, in which direction would you expect a delta to be formed?

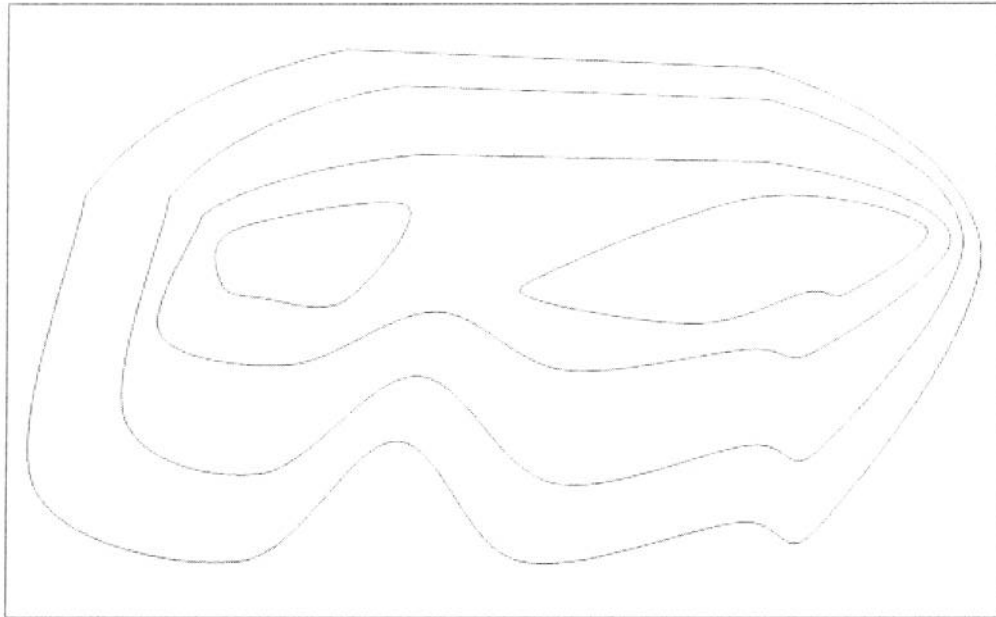


- A to the left
- B to the right
- C to the top
- D to the bottom

- 10 If the river in the topographic map illustrated in the previous question cut a deeper canyon over time, what would the topographic map of the area look like?



11 Where is the terrain the steepest in the topographic map?

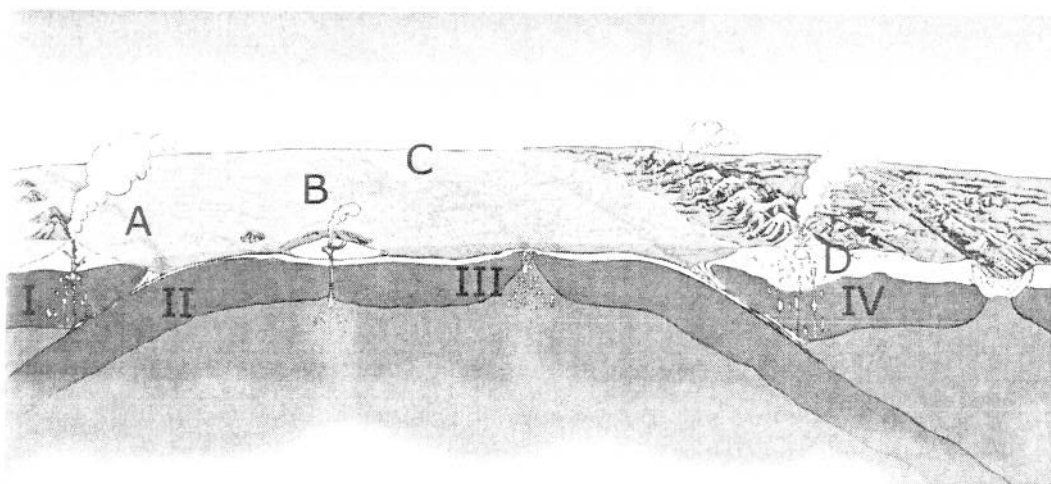


- A left side
- B right side
- C top
- D bottom

12 Alfred Wegener noted that fossils from a particular type of reptile were found on both sides of the Atlantic Ocean. Which of the following would be the BEST explanation of how this occurred?

- F They swam across the ocean.
- G The Atlantic Ocean did not exist in earlier times.
- H They walked across a giant land bridge that has weathered away.
- J They walked across an ice bridge located near the equator.

USE THE FOLLOWING MODEL FOR THE NEXT FOUR QUESTIONS.



13 Where would the youngest ocean floor be found?

- A** I
- B** II
- C** III
- D** IV

14 Which area on the terrain above would show an area with a convergent plate boundary?

- F** A
- G** B
- H** C
- J** D

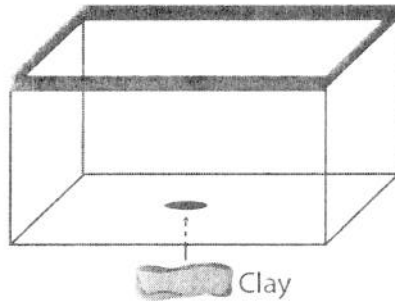
15 Which area on the terrain above would show an area with a divergent plate boundary?

- A** A
- B** B
- C** C
- D** D

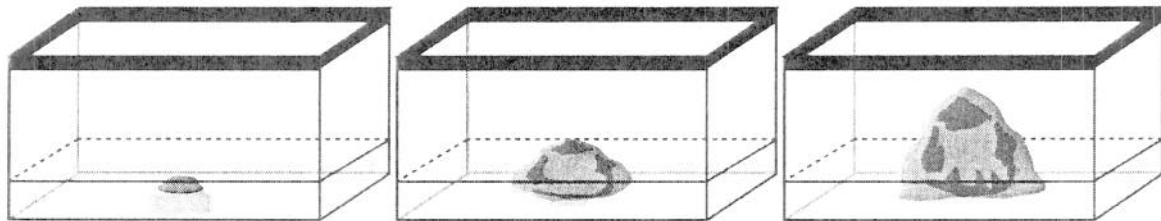
16 Where would the ocean floor be the oldest?

- F** I
- G** II
- H** III
- J** IV

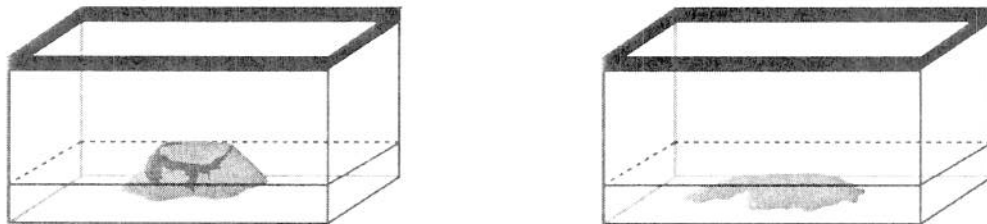
USE THE FOLLOWING SCENARIO FOR THE NEXT THREE QUESTIONS.

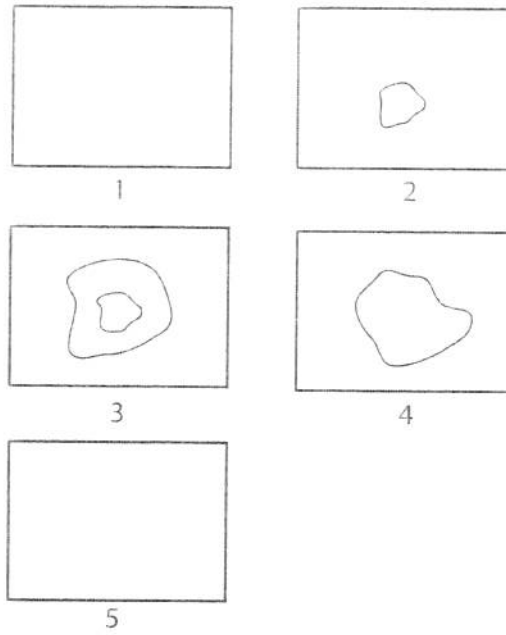


The following is a model of how a volcano is formed in the ocean. Clay is used to represent lava coming out of the ground. The clay is pushed through a hole in the bottom of a fish tank. The following forms.



You can see how the clay comes through the bottom, and slowly forms an island that is above the water. Afterwards, fishing line is used to cut off pieces of the island to show how the volcano will weather.





Which of the following series of topographic maps represents the formation and weathering of the volcano in the clay model?

- A** 1, 2, 3, 4, 5
- B** 2, 3, 1, 4, 5
- C** 1, 3, 4, 2, 5
- D** 1, 4, 3, 2, 5

Use the following information to help you answer questions 1 and 2.

Alfred Wegener

In 1912, the German scientist Alfred Wegener (1880–1930) proposed the theory of continental drift. According to Wegener's theory, all of Earth's continents once formed a single large landmass called Pangaea. Wegener believed that this huge "super-continent" broke into several sections that gradually "drifted" apart to form Earth's present-day continents.

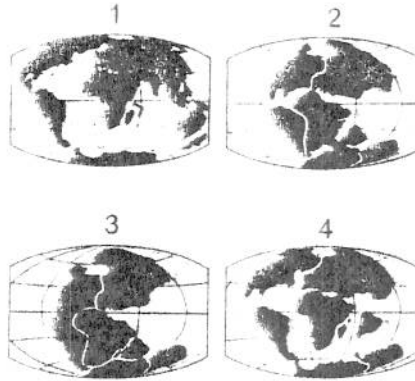


3.3D; 8.9A (H)

- 18 What evidence could Wegener have used to best support his theory of continental drift?
- A Similar climates existed on several of Earth's continents.
 - B A layer of melted material called magma moved beneath Earth's crust.
 - C Old maps revealed that the continents once formed a single large landmass.
 - D Fossils of identical plants and animals were found on continents separated by an ocean.

8.2E; 8.3B; 8.3D; 8.9A (M)

- 19 The pictures below show how Pangaea might have broken apart to form the present-day continents on Earth, but the pictures are not in order.



According to Wegener's theory of continental drift, which of the following best shows the correct sequence of how Pangaea would have broken apart to form today's continents?

- A 4, 2, 1, 3
- B 1, 4, 3, 2
- C 3, 1, 2, 4
- D 3, 2, 4, 1

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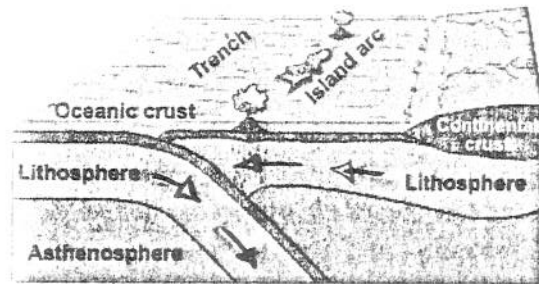
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Use the following information to answer questions 3 and 4.

Plate Tectonics

According to the theory of plate tectonics, Earth's lithosphere (hard outer shell) is broken into a mosaic of plates. These plates slide over softer, melted material in Earth's mantle. The plates move constantly and interact along their edges, or boundaries. Important geologic processes and events take place along those boundaries.



Oceanic-oceanic convergence

Source: United States Geologic Survey (USGS)

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8.2E; 8.9B (M)

20 Based on their knowledge of plate tectonics, scientists can accurately predict—

- A when earthquakes will occur
- B how strong earthquakes will be
- C when tectonic plates will begin to move
- D where earthquakes are most likely to occur

8.2E; 8.9B (H)

21 Based on the information in the paragraph above, which of the following is a valid conclusion?

- A The majority of volcanoes and earthquakes occur along plate boundaries.
- B Most of Earth's mountains were formed by glaciers that carved out the land.
- C All places on Earth are just as likely to experience violent earthquakes and volcanoes.
- D Earth's continents are moving closer to one another and will become one large landmass.

8.3A; 8.9A (L)

22

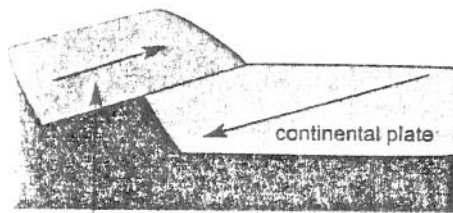
22. Alfred Wegener proposed the theory of continental drift in 1912. Wegener's theory differed from the beliefs of other scientists of his day. At that time, most scientists believed that the Earth's continents—

- A were moved by plates deep below Earth's crust
- B continually changed and drifted away from each other
- C drifted away from each other due to the force of the oceans' water
- D had fixed positions and could not move or drift away from each other

8.3B; 8.9B (M)

23

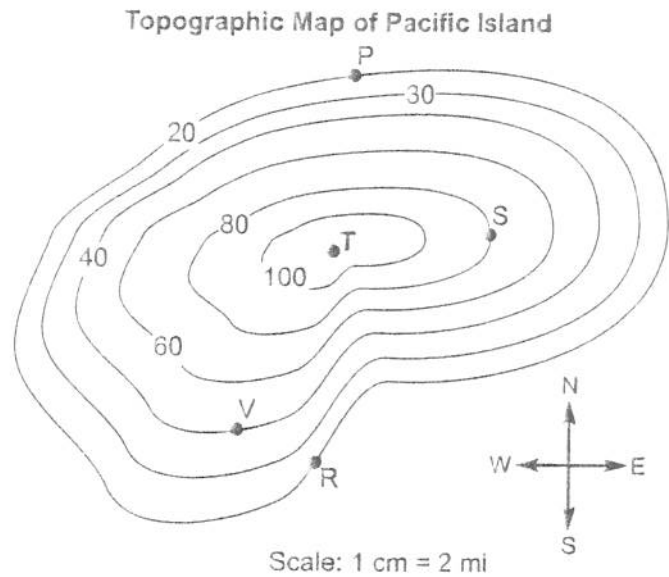
23. The diagram below shows two tectonic plates colliding.



Based on the diagram, what will most likely happen as a result of these plates colliding?

- A Volcanic eruption
- B Formation of sediment
- C Decrease in water levels
- D Formation of mountains

A topographic map for a small island in the Pacific Ocean appears below. Use the map to answer questions 3 and 4.



8.3B; 8.9C (M)

24

24. On which part of the island is the steepest slope?

- A Northeast
- B Northwest
- C Southeast
- D Southwest

8.3B; 8.9C (M)

25

25. What is the approximate distance between Points P and R on the island?

- A 3 mi
- B 5 mi
- C 8 mi
- D 10 mi