

Geology Unit Practice Test

1. List and explain the five pieces of evidence that support Continental Drift Theory.

- 1) *Sigsaw puzzle fit*
- 2) *Similar fossils*
- 3) *Similar geological features*
- 4) *Paleoglaciation*
- 5) *Coal deposits*

2. What land mass does Pangaea refer to?

- the original supercontinent that all of the current continents broke off from

3. Complete the following table with the layers of the Earth:

Layer	State	Thickness	Composed of...
<i>Crust</i>	<i>Solid</i>	<i>5-70 km</i>	<i>Granite</i>
<i>Mantle</i>	<i>Liquid</i>	<i>2900 km</i>	<i>Molten rock</i>
<i>Outer core</i>	<i>Liquid</i>	<i>2300 km</i>	<i>iron & nickel</i>
<i>Inner core</i>	<i>Solid (molten)</i>	<i>1200 km radius</i>	<i>Iron</i>

4. Convection currents occur in which layer of the earth?

Mantle

5. Describe how convection currents affect the movement of tectonic plates. Draw a diagram to explain your answer.

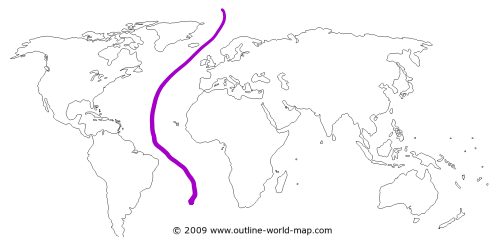


6. What is a tectonic plate?

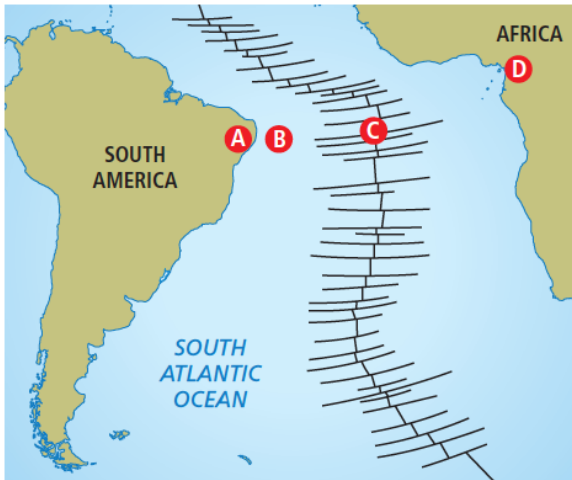
Pieces of Earth's crust that shift

7. What is the Mid-Atlantic Ridge? Where is it found? Identify the Mid-Atlantic Ridge on the map below.

The long mountain range running north to south down the length of the Atlantic Ocean



8. Use the diagram of the Mid-Atlantic Ridge below to answer the questions that follow:



a) How does the thickness of the crust at location A compare to the thickness of the crust at location B?

A is thicker

b) Where is the youngest rock located?

C

c) How does the age of rock at A compare to the age of rock at D?

Roughly the same

d) Where is magma most likely to be rising to the surface?

C

9. What is seafloor spreading? Explain this process using the terms “ridge push” and “slab pull”.

Magma rises beneath Earth's surface continuously pushing older rock aside (ridge push) and another plate is subducted (slab pull)

10. What is a geologic hot spot? What happens when a tectonic plate passes over a hot spot?

Hot spot = a weak point in the Earth's crust

↳ Creates volcanoes

11. Describe the theory of plate tectonics.

Earth's crust is broken up into plates and are continuously moving due to convection currents in the mantle.

12. Describe the age of rocks relative to their distance from an ocean ridge at a divergent plate boundary.

Older rocks are further from the ridge



13. Name and draw the three main types of tectonic plate boundaries.

i. Convergence → ←

ii. Divergence ← →

iii. Transform ↓ ↑

14. Why does subduction occur at some kinds of tectonic plate boundaries but not at others?

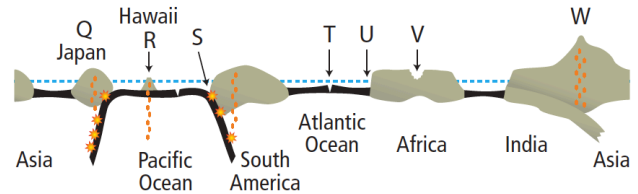
Subduction occurs when there is a difference in plate density

15. Name a mountain range produced by continental-continental plate convergence.

Himalayan

16. The diagram below is a cross-section showing different types of tectonic plates and geological features.

- W Continental-continental plate convergence
- S Trench
- B Hot spot
- Q Volcanic island arc
- T Mid-ocean ridge



17. Fill in the following table regarding seismic waves:

Seismic wave	Abbreviation	Description	Diagram
Primary	P	First to arrive	
Secondary	S	Second to arrive	
Surface	L	Moves only along the surface	

18. Complete the following table:

Type of Volcano	Structure	Where they occur	Example
Composite	Cone-shaped	Near subduction zones	Mt. Garibaldi
Shield	Largest	Over hot spots	Hawaiian Islands
Rift eruptions	Long cracks	In the crust	Mid-Atlantic Ridge

19. Why do earthquakes and volcanoes occur at tectonic plate boundaries?

Pressure built up between tectonic plates.
Ruptures occur at boundaries.

20. Identify **two** ways in which a tsunami is different from a regular ocean wave.

Longer wavelength
Higher amplitude.

21. Match the term with the descriptor. Each descriptor can only be used once.

Term	Descriptor
1. <u>B</u> Continental drift theory	A. A process that results in the Mid-Atlantic Ridge
2. <u>C</u> Plate tectonic theory	B. The point on the Earth's surface directly above the focus
3. <u>E</u> Spreading ridge	C. The theory that the crust is broken up into large plates that move and then rejoin
4. <u>K</u> Magma	D. Vibrating energy released by an earthquake
5. <u>P</u> Mid-Atlantic Ridge	E. A geological feature that results from sea-floor spreading
6. <u>A</u> Sea floor spreading	F. The most inner layer of the Earth
7. <u>G</u> Convergent plate boundary	G. An area where tectonic plates collide
8. <u>S</u> Divergent plate boundary	H. The most outer layer of the Earth
9. <u>M</u> Transform plate boundary	I. A massive release of energy that shakes the crust
10. <u>H</u> Crust	J. The location inside Earth where an earthquake starts
11. <u>V</u> Mantle	K. Hot fluid below or within the Earth's crust
12. <u>F</u> Inner Core	L. A compression wave that travels through solids, liquids and gases
13. <u>Q</u> Outer Core	M. An area where tectonic plates slide past one another
14. <u>U</u> Tectonic plates	N. A wave that travels along the Earth's surface
15. <u>I</u> Earthquake	O. A measurement of an earthquake
16. <u>S</u> Focus	P. A long mountain range running north to south down the length of the Atlantic Ocean
17. <u>B</u> Epicentre	Q. The second most inner layer of the Earth
18. <u>D</u> Seismic waves	R. The theory that the continents have not always been in their present locations but have moved over millions of years.
19. <u>L</u> P wave	S. An area where tectonic plates are spreading apart
20. <u>T</u> S wave	T. A transverse wave that does not travel through the liquid mantle
21. <u>N</u> L wave	U. The large slabs or rock that form Earth's surface and move over a layer of partly molten rock
22. <u>O</u> Richter magnitude scale	V. The layer of the Earth where convection currents occur