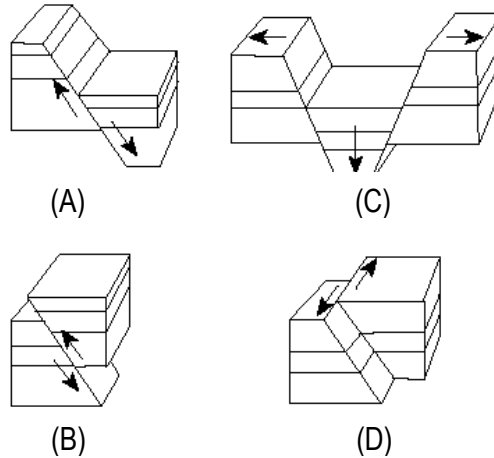


Name _____

Date _____

GEOLOGY AND SOILS PRACTICE QUESTIONS

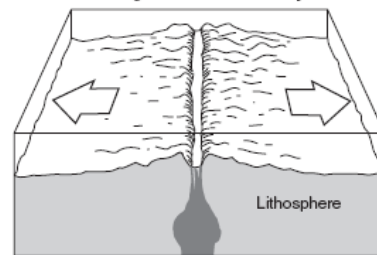
1. Which block diagram best shows a transform fault?



2. The diagram below shows a tectonic plate boundary.

Which plate boundary consists of motion like the one shown in this diagram?

- (A) Hawaii Hot Spot
- (B) Peru-Chile Trench
- (C) Mid-Atlantic Ridge
- (D) Yellowstone Hot Spot
- (E) San Andreas Fault



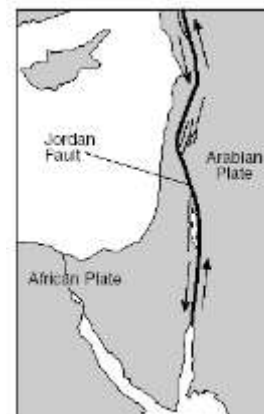
3. Active volcanoes are most abundant along the

- (A) edges of tectonic plates
- (B) 23.5° N and 23.5° S parallels of latitude
- (C) eastern coastline of continents
- (D) equatorial ocean floor

4. The map below shows the northern section of the boundary between the Arabian Plate and the African Plate. Arrows show the relative direction of plate motion.

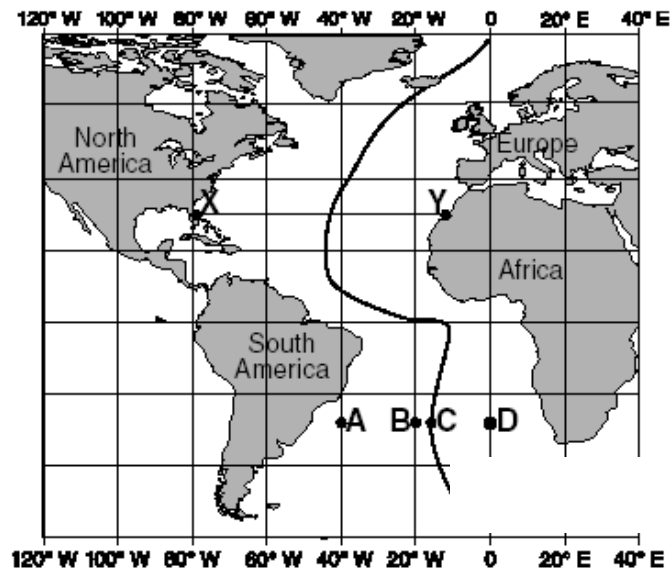
Which type of plate boundary and geological activity occurs at the Jordan Fault?

- (A) divergent; volcanic eruptions and mountain building
- (B) subduction; volcanic activity
- (C) convergent; earthquake activity
- (D) transform; earthquake activity
- (E) complex; no activity

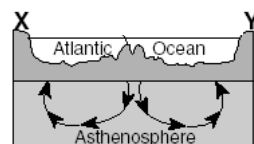


5. The movement of tectonic plates is inferred by many scientists to be driven by
- (A) tidal motions in the hydrosphere
 - (B) density differences in the troposphere
 - (C) convection currents in the asthenosphere
 - (D) solidification in the lithosphere

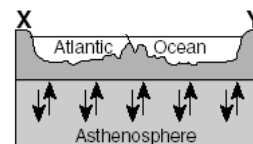
Base your answers to **questions 6 and 7** on the map shown below.



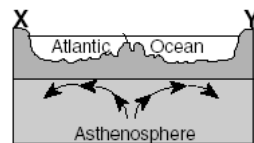
6. In which cross section do the arrows best show the convection occurring beneath line XY?



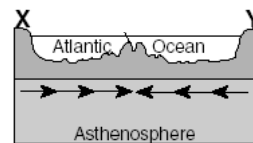
(A)



(C)



(B)



(D)

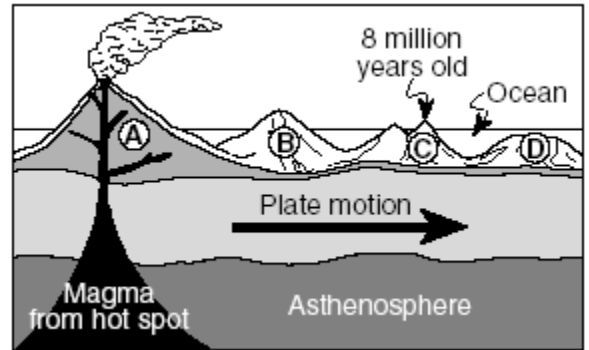
7. Point C is located on
- (A) the Peru-Chile Trench
 - (B) Mariana Trench
 - (C) Mid Atlantic Ridge
 - (D) San Andreas Fault
 - (E) East Pacific Ridge

8. Which coastal area is most likely to experience a severe earthquake?
 (A) east coast of North America
 (B) east coast of Australia
 (C) west coast of Africa
 (D) west coast of South America
 (E) the South Pole

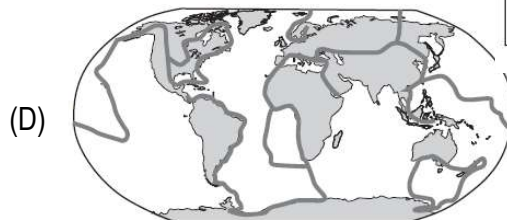
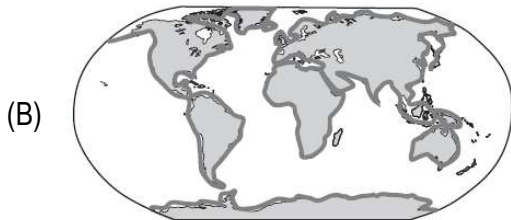
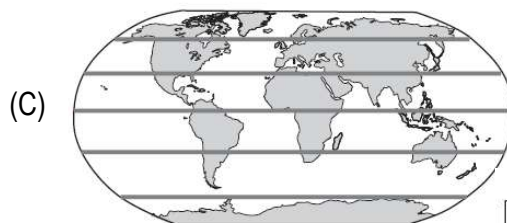
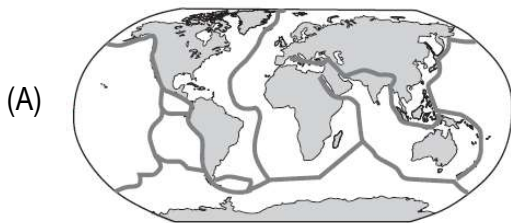
9. The cross section below shows the direction of movement of an oceanic plate over a mantle hot spot, resulting in the formation of a chain of volcanoes labeled A, B, C, and D. The geologic age of volcano C is shown.

What are the most likely geologic ages of volcanoes B and D?

- (A) B is 5 million years old and D is 12 million years old.
 (B) B is 2 million years old and D is 6 million years old.
 (C) B is 9 million years old and D is 9 million years old.
 (D) B is 10 million years old and D is 4 million years old.



10. Which world map shows the locations where most earthquakes and volcanoes occur on Earth?

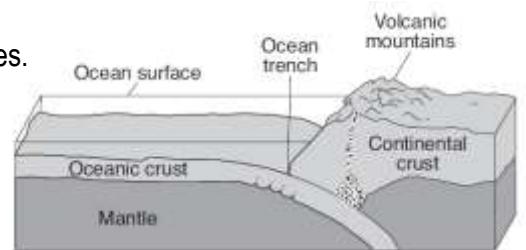


Key	
	Location of most earthquakes and volcanoes

11. The block diagram below shows the boundary between two tectonic plates.

Which type of plate boundary is shown?

- (A) divergent
 (B) convergent
 (C) transform
 (D) complex



(Not drawn to scale)

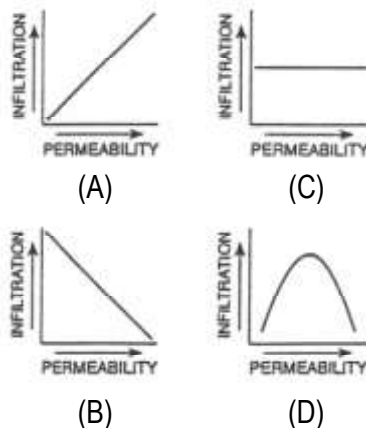
Link the type of soil with its key properties and the biome it is associated with

- | | | |
|---------------|---------------------------|---|
| 12. spodosols | tropical rainforest | reddish brown from most severe leaching of Fe-Al |
| 13. aridisols | grasslands | low fertility, but can be made workable |
| 14. oxisols | coniferous forest | dark A-horizon, very fertile for farming |
| 15. ultisols | northern deciduous forest | sandy, little organic material |
| 16. alfisols | southern deciduous forest | extensive profile development (especially A and B horizons) |
| 17. mollisols | desert | pine needles acidify soil |

18. Use the USDA Soil Texture Triangle one more time to classify a few soils ...

- a. A soil mix consists of: clay 45%, silt 50%, sand 5% Soil texture? _____
- b. A soil mix consists of: clay 20%, silt 40%, sand 40% Soil texture? _____
- c. West Palm Beach training facilities of a few Major League teams use an infield mix of 75% sand 15% clay 10% silt. The soil texture would be classified as? _____

19. Which graph best represents the relationship between soil permeability rate and infiltration when all other conditions are the same?



20. A soil sample with a high percentage of open space between grains must
- have low permeability
 - have mixed grain sizes
 - be porous
 - show a high amount of capillarity

21. Immediately after moderate rainfall, the stream discharge is greater from a stream that drains a clay soil area than from a stream that drains a sand and gravel soil area. This discharge differs because the clay soil is
- (A) less porous and allows less runoff
 - (B) more porous and allows more runoff
 - (C) less permeable and allow more runoff
 - (D) more permeable and allows less runoff
22. Which type of soil retains the most water?
- (A) clay and silt
 - (B) clay and sand
 - (C) sand and gravel
 - (D) loam
 - (E) sandy loam
23. Subterranean gas flow to enhance root health is known as
- (A) aeration
 - (B) holding capacity
 - (C) workability
 - (D) permeability
 - (E) capillarity
24. Name one fact that corresponds to each of the soil horizons listed:
- a. O-horizon _____
 - b. A-horizon _____
 - c. E-horizon _____
 - d. B-horizon _____
 - e. C--horizon _____
25. What is the major determiner of the chemical composition of a soil profile?
- (A) porosity of the soil
 - (B) age of bedrock
 - (C) type of bedrock
 - (D) amount of leaching
 - (E) soil permeability