-Name_____Period:_____Science Teacher: _____

**Reporting Category 3: Earth and Space**

## Plate Tectonics – 8.9A


What was the name given to the supercontinent that formed when all the continents drifted together?

What scientist is credited for proposing the theory of continental drift?

What did this theory state?

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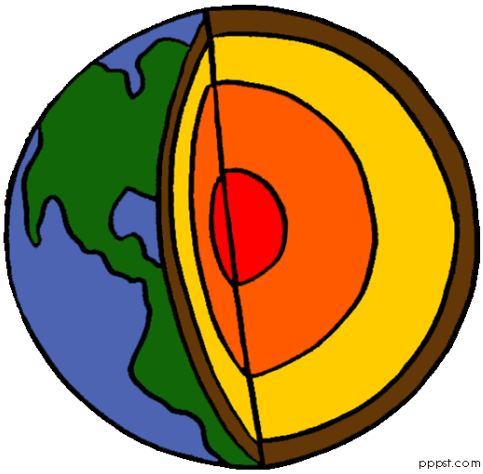
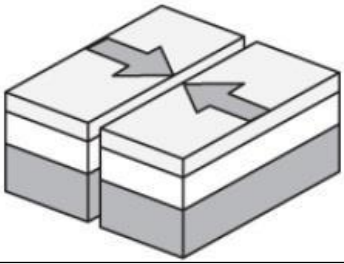
Which of the following statements is not supported by the plate tectonic theory?

a. Continents move through the seafloor crust.
b. Locations of volcanoes and earthquakes can be explained.
c. Seafloor spreading provides evidence to support the plate tectonic theory.
d. There are three different types of plate boundaries associated with the direction of plate movement

**Formation of Crustal Features – 8.9B**

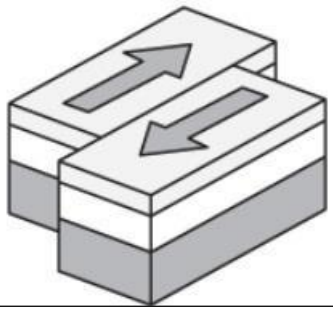
Label the layers of the Earth in this model.



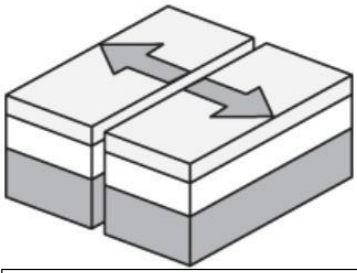
Type of plate boundary:

Landform(s) created by this movement:



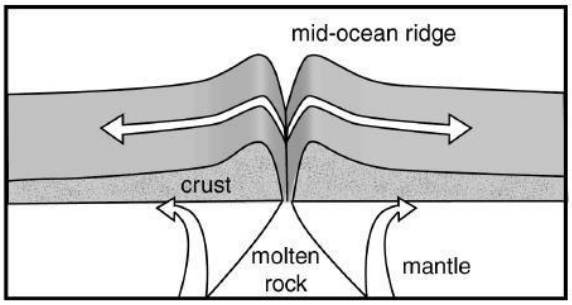
Type of plate boundary:

Landform(s) created by this movement:



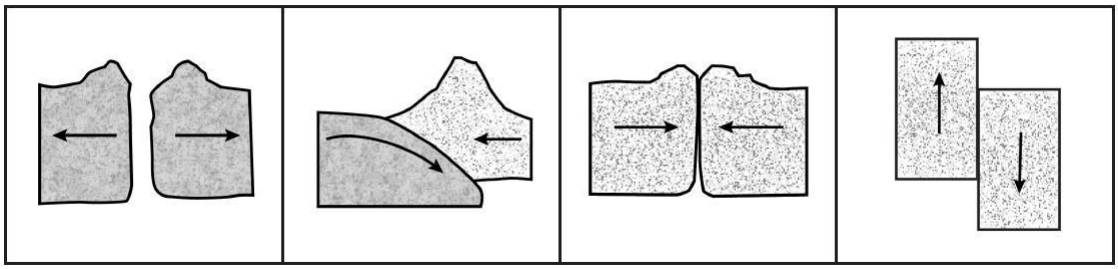
Type of plate boundary:

Landform(s) created by this movement:




The diagram shows how the ocean floor is spreading. The new ocean floor made of molten rock is being formed at a mid-ocean ridge. Which best describes where the molten rock comes from?

a. The crust
b. Volcanoes under the ocean floor
c. Masses of land to either side of the ocean
d. The mantle just beneath Earth's crust



Which table represents a land feature or geologic process that occurs at each type of boundary pictured?

a.

| | |
|---|---|
| Q | Mid-Ocean Ridge |
| R | Volcano |
| S | Folded Mountain |
| T | Earthquake |

b.

| | |
|---|---|
| Q | Earthquake |
| R | Mid-Ocean Ridge |
| S | Volcano |
| T | Folded Mountain |

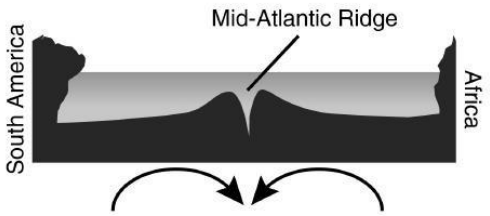
c.

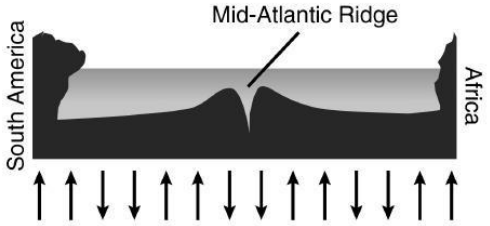
| | |
|---|---|
| Q | Volcano |
| R | Folded Mountain |
| S | Mid-Ocean Ridge |
| T | Earthquake |

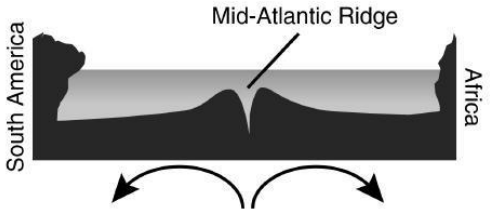
d.

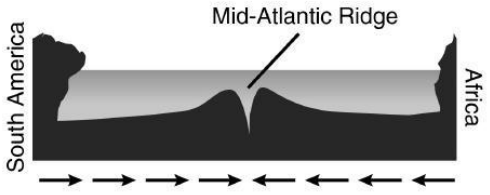
| | |
|---|---|
| Q | Mid-Ocean Ridge |
| R | Volcano |
| S | Earthquake |
| T | Folded Mountain |

Many scientists believe that convection currents in the asthenosphere between South America and Africa caused the separation of the two continents and the formation of the Mid-Atlantic Ridge. Which diagram best represents the convection currents in the plate tectonic theory?



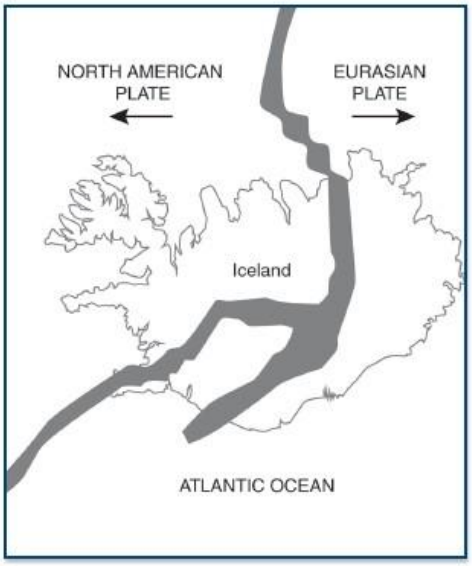



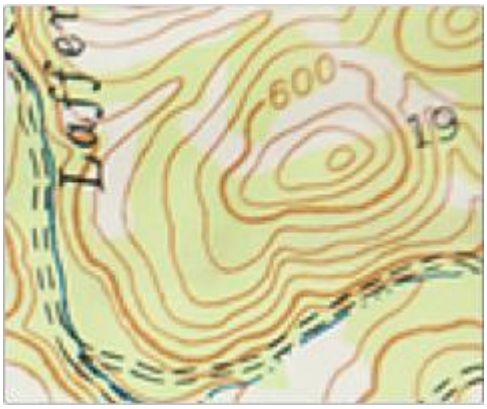




Which of these features is formed by the separation of the North American and Eurasian tectonic plates?

a. Ice cave
b. Rift valley
c. Deep trench
d. Flat plateau



**Topographic Maps – 8.9C**



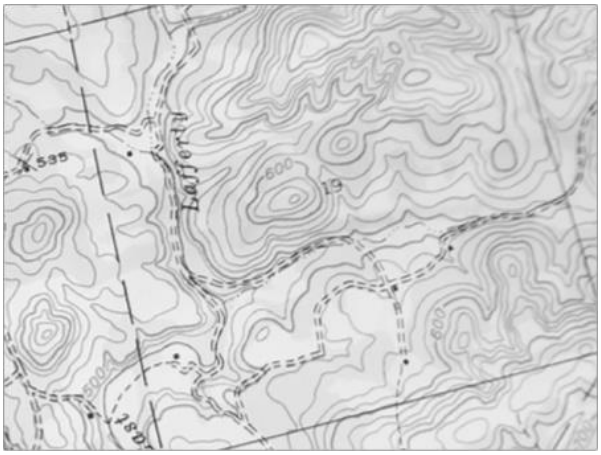

What does a grouping of close contour lines indicate?

a. The location of water
b. A meadow
c. A steep slope
d. A railroad

On September 13, 2008, Hurricane Ike struck the Texas coast. What information can be observed from the aerial photos taken before and after the storm?

a. The change in landforms due to erosion caused by the storm
b. The depth of the water in the area
c. The wind speed of the storm
d. The tide levels expected for the next storm

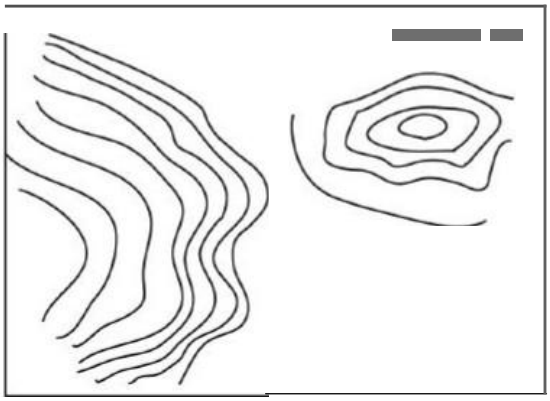


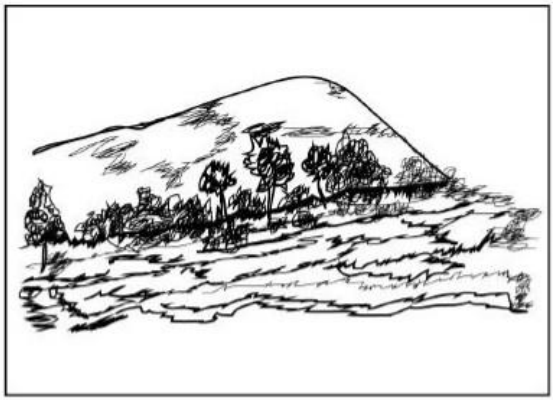


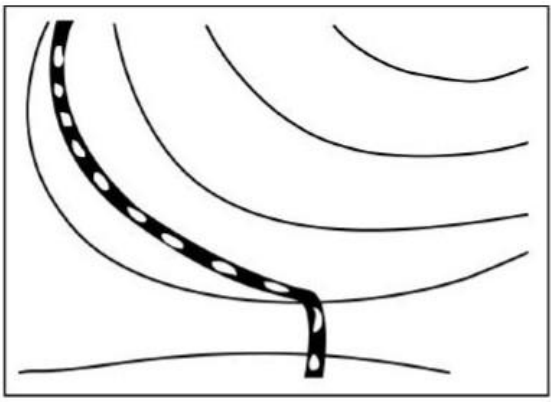

A student used the topographic map (to the left) to plan a hike. What Information is shown by the contour lines?

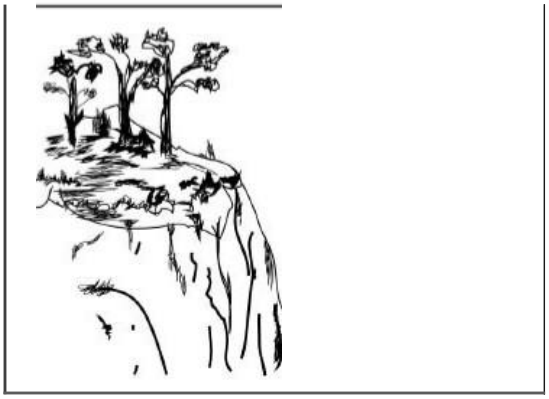
a. Distance
b. Elevation
c. Foliage
d. Parking

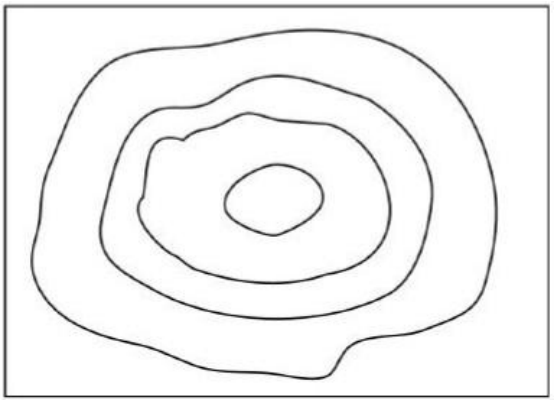
Draw a line connecting each landform to its topographic map.

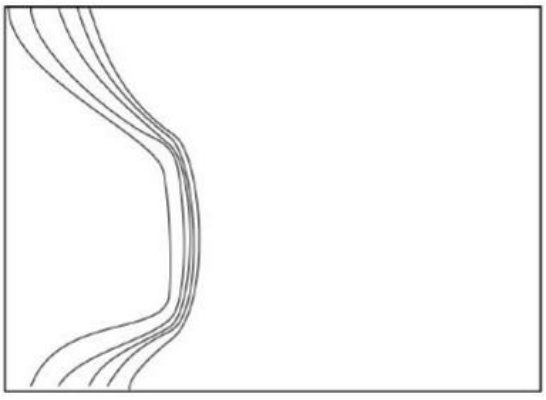












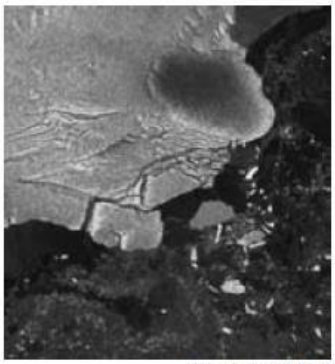
What would you look for in a series of topographic maps to determine that erosion has occurred?

a. A widening of the spaces between contour lines
b. A crossing of contour lines
c. An increase in the number of rivers
d. Wind speed and direction values

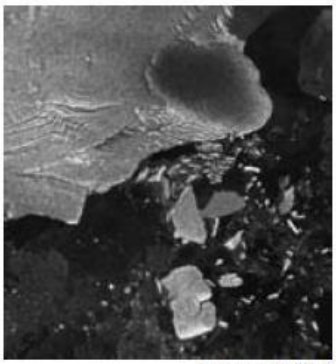
**The Sulzberger Ice Shelf**

The Sulzberger Ice Shelf is a large ice formation found in northern Antarctica, about 8,000 miles south of Japan. The ice shelf is about 85 miles long and 50 miles wide. Until March 2011, the Sulzberger Ice Shelf had not moved for nearly 50 years.

The two satellite images to the right show the Sulzberger Ice Shelf after an earthquake and resulting tsunami (tidal wave) occurred near Japan on March 11, 2011. The earthquake measured 9.0 on the Richter Scale.



Source: NASA
Satellite Image A
March 12, 2011



Source: NASA
Satellite Image B
March 16, 2011

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

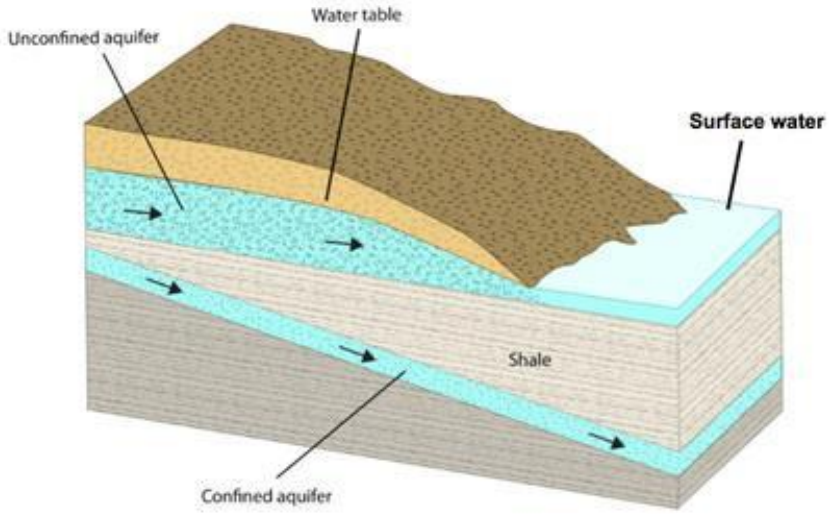
**a.** The force of the earthquake and tsunami on March 11, 2011 was limited to areas near Japan.
**b.** Events like earthquakes and tsunamis have the greatest impact on areas south of the actual events.
**c.** The force of the earthquake and tsunami on March 11, 2011 had far-reaching consequences.
**d.** The Sulzberger Ice Shelf in Antarctica was already weak and, therefore, likely to be damaged by an earthquake or tsunami.

**Human Impact on Groundwater – 7.8C**

Street signs around the city of Austin, Texas warn citizens against dumping waste liquids in certain areas. The signs state that these areas are aquifer recharge zones where large quantities of water can flow into the aquifer. Why should dumping be limited in recharge areas?

a. Liquid waste may directly enter the groundwater.
b. Austin is too close to the Gulf coast.
c. Water should be recycled.
d. There is a water shortage in Austin.

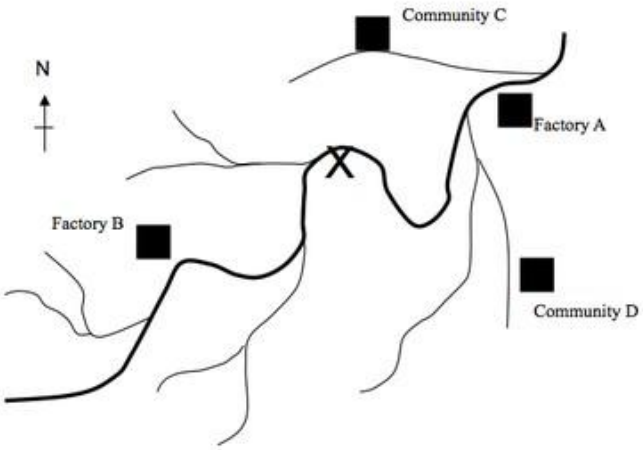
**Look at the diagram of the aquifer.**




Where could pollution from human activity enter the confined aquifer shown in the diagram?

a. From the unconfined aquifer
b. From the recharge zone not shown in the diagram
c. From pollution poured on the ground above it
d. From the surface water

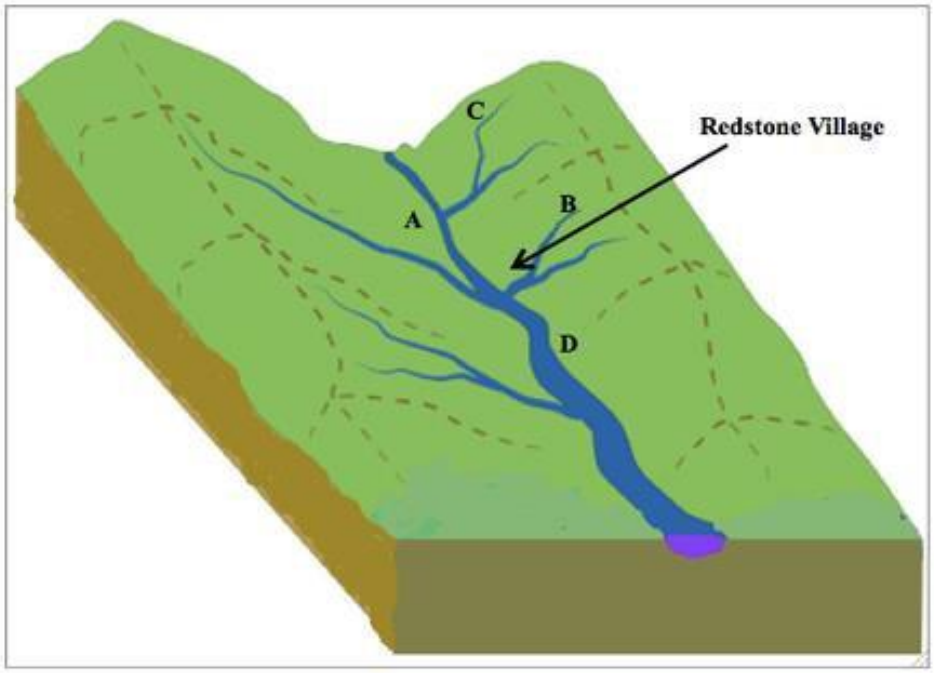
**Look at the map provided.**




When the water from the river was sampled at location X, it was determined to be polluted with various chemicals. What would be the most likely source for this pollution?

a. Factory A
b. Factory B
c. Community C
d. Community D

**A paper company wants to build a paper mill in the watershed pictured. The citizens of Redstone Village are concerned about the point source pollution that may be generated by the paper mill.**




Which location would be the best place to build the paper mill so that Redstone Village would not have polluted water from the paper mill's waste flowing past it?

a. Location A
b. Location B
c. Location C
d. Location D