

Ch 12.2 Plate Tectonics Map Reading Activity

Activity A) Plate Boundaries

Refer to p. 7, 10-11 of your Data Booklet to answer the following questions.

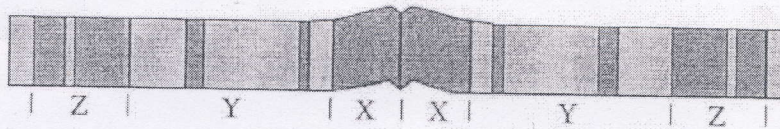
1. a) Which type of plate boundary is located between the African Plate and the South American Plate? divergent

2. Describe what is happening at the Mid-Atlantic Ridge and explain how this happens.

Tectonic plates are diverging, causing a spreading ridge. The plates are pushed apart by convection currents of magma in the

3. Below is a magnetic stripping reversal pattern recorded in the Mid-Atlantic Ridge.

mantle. (asthenosphere)



a) Order the age of the rocks from the oldest to the youngest.

Oldest: Z, Y, X Youngest

b) If the oldest rock was formed during the Pliocene epoch, match the rocks to their epoch.

X: Holocene Y: Pleistocene Z: Pliocene

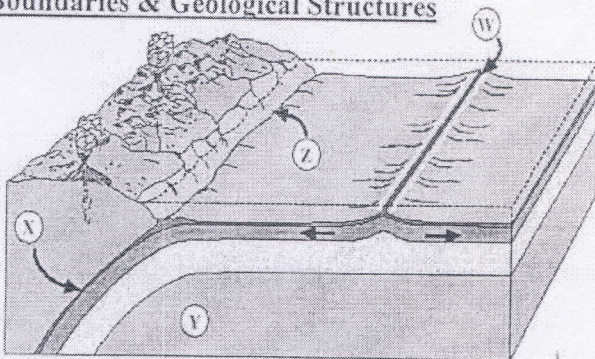
4. Where on the map on p.11 of your data pages does continental-oceanic convergence occur? Name the two plates. Nazca Plate, South American Plate

5. Refer to the symbols on the right. Which of the following symbols indicate the presence of the subduction zone along the Pacific Coast of North America?

III

I	
II	
III	
IV	

Activity B) Plate Boundaries & Geological Structures



1. What type of plate boundary is represented by W? divergent

2. What type of geological structure is represented by W? Spreading ridge / oceanic ridge

3. What process is represented by X? subduction

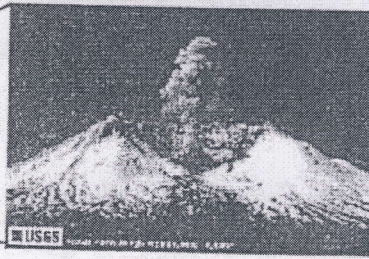
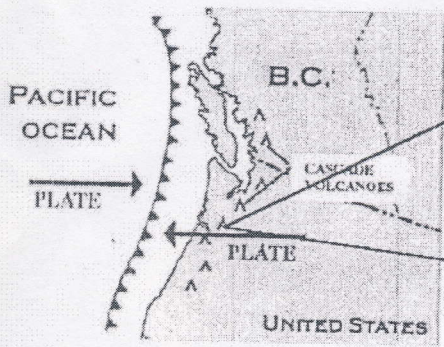
4. Which part of the earth is represented by Y? mantle / asthenosphere

5. What type of plate boundary is represented by Z? convergent

6. What type of geological structure is represented by Z? trench

Activity C) Volcanism

North American Pacific Coast

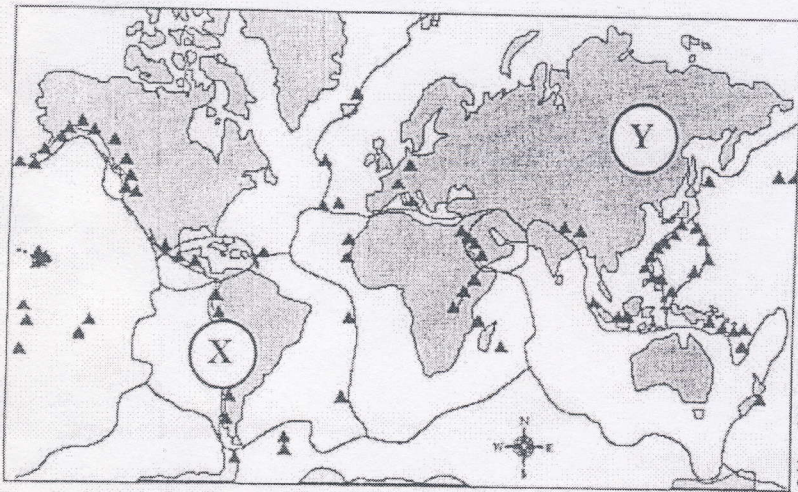


Eruption of Mount St. Helen

1. What type of plate movement (boundary) is going on along the Pacific Coast? Convergent
2. Volcanoes are found along the Pacific coast. Why are they present?
Oceanic plate is subducting below the continental plate as they converge, causing magma to build up in the asthenosphere and push up into volcanoes.

D) Global Distribution of Volcanoes

Use the following diagram and p.11 of your data booklet to answer the following questions.



Global distribution of volcanoes (▲) and earthquakes (—) based on Simkin and others (1989)

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1. Which type of plate boundary is found at location X? Convergent
2. What type of geological structure is formed at location X as a result of this type of boundary?
Volcanoes
3. At location Y, mountain ranges are formed. Which type of plate collisions contribute to the formation of mountain ranges at location Y? Continental-Continental convergent
4. Where do most of the volcanic activity occur? Convergent boundaries / Divergent boundaries
5. Where do most earthquakes occur? Faults between plates