

Mountains form as a result of plate tectonics



Mountain families

Experiment: Plate Tectonics - The Puzzle of the Continents (E. Science 9-103b)

Materials: Video: Plate Tectonics - The Puzzle of the Continents (Science 16)

Methods & Results: Answer question as you come across them in the video.

1. What did Alfred Wegener think back in 1911?
2. How did people back in 1911 think of continental drift?
3. Where did Alfred Wegener tragically die in 1930?
4. What is the greatest scientific theory of the 20th century?
5. What are three of Wegener's evidences for plate tectonics?
 - a.
 - b.
 - c.
6. What is the name of the giant continent that was theorized to exist on the south pole?
7. What is the mechanism for how continental plates move?
8. How did oceanographers in the 1950's map the ocean floor?
9. What is the name for the ridge of underwater mountains in the middle of the Atlantic Ocean?
10. What two modern evidences are there for plate tectonics?
11. How many major tectonic plates are there in the lithosphere?
12. What are the Plates usually named after?
13. What do the arrows on the plates indicate?

Sec: _____ Name: _____

14. Draw a sketch of the three types of plate boundaries, use arrows to indicate movement of plates. **(Continue with the rest of the question as we discuss each of these types of boundaries).**

Divergent Boundary

Transform Boundary

Convergent Boundary



15. How fast are the continents moving apart?

16. What is the driving force of plates?

17. What are the names of the two plates that split Iceland in half?

a.

b.

18. How has Iceland used the heat from the molten magma?

19. Draw convergent boundary for question 14.

20. What is the subduction zone?

21. What happens when the plates of equal densities collide?

22. Draw a transform plate boundary for question 14.

23. How far did the plates lurch forward during the San Francisco earthquake of 1989?

24. Describe how a hot spot works?

25a. We have just watched the video and have seen massive powers needed to cause plates to move. However, God's power is much much greater. Reread Eze. 38:20 and list each of the organisms that tremble in God's presence.

25b. Even though God is a powerful and (for the unsaved) a fearful God, God at the same time tries to comfort us. There are over 30 references in the Bible where He says "fear not". Read Isa 41:10, which is one of the passages that says fear not, and list some phrases He uses to reassure us so we can be less fearful?

25c. Also read Isa 43:1 and list some other phrases God used to comfort and encourage His people.