

Video: Planet Earth, The Living Machine

Geology

Mr. Traeger

Name: _____ Period: _____ Date: _____

1. What is the Theory of Plate Tectonics?
2. How can the Grand Canyon reveal the history of the Earth?
3. Who was James Hutton? What was his big discovery?
4. Who was Alfred Wegener? What was his big idea?
5. Why was Alfred Wegener's proclamation known as a hypothesis and not a theory?
6. What was Pangaea? How many millions of years ago did it start to exist and when did it start to break apart?
7. What did scientists discover in the middle of the Atlantic Ocean?
8. What is seafloor spreading?
9. How can rock samples record the magnetic field of the earth at the time in which they solidified?
10. What did Vine and Matthews discover on the Sea Floor at the Mid-Atlantic Ridge? Draw a cross-sectional diagram of the Atlantic Ocean seafloor below showing what they found.
11. How does the age of rock change the farther you go away from the Mid-Atlantic Ridge in either direction?

12. What are 3 ways in which the Earth's plates can interact with each other?
13. What is subduction and what are the results of subduction?
14. How were the Himalaya Mountains formed and what type of plate boundary were they formed upon?
15. What kind of plate boundary is the San Andreas Fault? In how many years will the San Francisco Giants and the Los Angeles Dodgers be cross-town rivals as a result of motion along this fault?
16. What is thought to be the main driving force for plate tectonics in the asthenosphere and mantle of the Earth?
17. How were the Hawaiian Islands formed in the middle of the Pacific Plate?
18. What happened in New Madrid, Missouri in 1812? How does this event give evidence of plate tectonics thousands of miles from the nearest plate boundary?
19. How do fossils and the finding of exotic terranes in the Marin Headlands near San Francisco support the theory of micro-Plate Tectonics?
20. How did the shapes of continents shown by Christopher Scotese give rise to Alfred Wegener's continental drift hypothesis? Explain.
21. How does the movement of continents influence the migration patterns of sea turtles to the Ascension Islands in the middle of the Atlantic Ocean? How is this evidence for natural selection within sea turtle species?