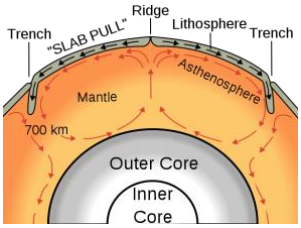


Name: James Macgillivray Per. 1

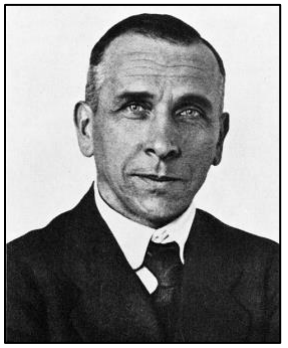
Plate Tectonics WebQuest

Prior Knowledge: In this lesson you will learn about the theory of plate tectonics and identify major processes and features that result from moving plates. Before beginning, use the Learning Scale below to rate your knowledge of plate tectonics. Place a check in the before box. You will re-rate yourself in the after box after the lesson.

Rating Before Lesson	Learning Scale	Rating After Lesson
6	**4** I can teach others how to analyze the theory of plate tectonics and to identify major processes and features that result from moving plates.	
9	**3 I can analyze the theory of plate tectonics and identify major processes and features that result from moving plates.**	
4	**2** I can describe the theory of plate tectonics and identify some of the major processes and features that result from moving plates.	
2	**1** With help, I can describe the theory of plate tectonics and identify some of the major processes and features that result from moving plates.	
0	**0** I do not yet understand plate tectonics or cannot yet identify the major processes and features that result from moving plates.	

Task One: Watch and Learn – Pangaea and Wegener

Use the link below to watch the Animated Life: Pangaea video from the HHMI BioInteractive website. As you watch the video, answer the following questions. Tiny URL: http://tinyurl.com/yacu99w9
Full URL: https://www.biointeractive.org/classroom-resources/animated-life-pangea



1. Why did Wegener travel to the atmosphere in a balloon? To test the thery of plate tectonics

2. What artic country did Wegener travel to and study? Greenland

3. What year did Wegener make his discovery and idea of continental drift? 1969

4. In what direction did Wegener think that the continents moved? away from eac hother

5. What evidence did Wegener have to support his theory of plate tectonics? Fossils DNA and mountain ranges

6. Where is Wegener's body? Greenland

7. The video states that the continental plates don't drift along the ocean floor, as Wegener suggested. How do the plates really move? the ocean expanding and seafloor spreading

Task Two: Our Dynamic Earth Interactive

Use the link below to complete the Dynamics of Earth Interactive by Annenberg Learner. As you use this interactive, follow the directions and answers the questions below. Tiny URL: https://tinyurl.com/sddj67o
Full URL: https://www.learner.org/series/interactive-dynamic-earth/

Move your curser over the structures of the Earth and complete the table by filling in three facts per structure.

Structure	1st Fact	2nd Fact	3rd Fact
8. Inner Core	its kinda warm	its in the middle	its made of iron and nickel

Structure	1st Fact	2nd Fact	3rd Fact
9. Outer Core	liquid	also kinda warm	also iron and nikel
10. Mantle	liquid	less warm	oxygen, silcon magezium
11. Crust	solid	thin n crispy	like rocffk and stu
12. Lithosphere	it has plates	it contains upper mantle	floats on asthenosphere
13. Asthenosphere	in the mantle	semi plastic rock	solidy

Click *Next Chapter: Plate Tectonics*

14. Look at the picture on the left. About how long ago did the continents appear this way? 200million years gago

Click *How Do We Know This?*

What two pieces of evidence did Wegener discover that supported the idea of Pangaea?

15. fossils in the ground
16. jigsay theory

17. What does "Pangaea" mean in Greek? google translate says "pangaea"

18. What two major landmasses broke apart from Pangaea? stralia and merica

19. What continent did Australia separate from? arntactica

20. What does the modern theory of plate tectonics state? that the continantes move

Scroll Down and Click *Continents Over Time* and complete the Pangaea Puzzle in under two minutes!

21. Write one observation you made as you completed this activity. whaaaa?

Click *Plate Boundaries*

22. How many tectonic plates are shown on the map? theres like 3 to the right i think

23. Compare the thickness of continental crust and oceanic crust. the oceanic crust is thinner than continantal cristy

24. Which type of crust is usually the oldest? _____

25. What do the plates' names refer to? _____

26. What is the border between two tectonic plates called? _____

In the table below, describe each type of boundary and draw a picture of the boundary.

Boundary	Description	Drawing of Boundary
27. Convergent		
28. Divergent		
29. Transform		

30. Use the interactive boundary map to look at the different types of boundaries on Earth. Which type(s) of boundaries occur on the west coast of the United States? _____

Click *Plates and Boundaries Challenge*
Complete the challenges. Write 2 Things you learned from the challenges on the lines below.
31. _____
32. _____

Task Three: Supercontinent Game
Use the link below to play the Pangaea Supercontinent Game. After you complete the game, answer the questions below. Full URL: https://www.purposegames.com/game/pangaea-the-supercontinent-game
Tiny URL: https://tinyurl.com/yb72glq4

33. What plate was the largest?_____ The smallest?_____

34. Play again until you get a perfect 100% score. What was your time?_____

Task Four: Watch and Learn – Plate Tectonics
Use the link below to watch the Plate Tectonics video by Bozeman Science. As you watch, answer the questions below.
Full URL: https://www.youtube.com/watch?v=JmC-vjQGSNM Tiny URL: https://tinyurl.com/lwjfftn

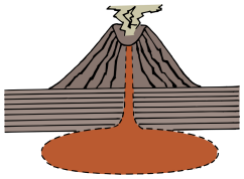
35. What is pushing apart North America and Eurasia? _____
_____

36. Why are there so many earthquakes in California? _____
_____

37. What type of rock are continental plates made from? _____

38. What type of rock are oceanic plates made from?_____

39. Which type of plate is most dense, oceanic or continental?_____



40. If an oceanic plate and a continent plate converge, or push towards each other, which plate will sink under the other one?_____

41. How are the active volcanoes, Mt. Rainer and Mt. St. Helens, formed?_____

_____

42. What landform is created when two continental plates push together at a convergent boundary?

_____

43. What occurs when two continental plates move away from each other at a divergent boundary?_____

44. What occurs when two oceanic plates converge? _____

_____

45. What occurs when two oceanic plates move away from each other?_____

46. Is the Atlantic Ocean getting larger or smaller?_____

47. What drives the movement of tectonic plates on Earth?_____

48. Describe the motion of convection currents._____

49. What is a hot spot?_____

Task Five: Slip, Slide, and Collide Interactive

Use the following link to complete the Slip, Slide, and Collide interactive from Annenberg Learner. Follow the directions below to answer the questions as you move through this interactive. Tiny URL: https://tinyurl.com/sddj67o
Full URL: https://www.learner.org/series/interactive-dynamic-earth/

50. If you know about the movements taking place at a plate boundary, what can you predict?_____

_____

Click *See What Happens at Different Plate Boundaries*

51. Describe what occurs when an oceanic plate collides with a continental plate. _____

_____

Use the interactive graphic to answer the following three questions. (Select the labels on the graphic)

52. What is a subduction zone?_____

53. What is a trench?_____

54. What is a volcanic arc?_____

55. When magma formed at a subduction zone rises up toward the earth's surface and builds into magma chambers, what can occur?_____

56. How are island arcs formed?_____

57. Describe a tsunami. _____

_____

58. Describe what occurs when two continental plates collide._____

_____

59. The collision of what two plates formed the Himalayan Mountains?_____

60. Are the Himalayas growing or shrinking?_____ By how much each year?_____

Click *Next*

61. Describe the process of sea-floor spreading._____

_____

62. How is new ocean floor and oceanic crust formed? _____

63. What is a rift?_____

64. What occurs early on in the formation of a rift?_____

_____

65. Describe what eventually happens to widening crust along a boundary._____

_____

_____

66. Describe the movement of plates at a transform boundary._____

_____

67. What is a fault?_____

68. Explain how earthquakes are formed._____

_____

_____

69. What is another name for the motion of plates at a transform boundary?_____

70. What are the names of the two plates that meet at the San Andreas Fault?_____

Click *Plates Interactions Challenge*

Case 1: Africa

71. What is happening at the plate boundary where the African Plate and the Arabian Plate meet?_____

_____

72. What geological event is most likely to occur at this plate boundary in the future?_____

_____

Case 2: New Zealand

73. What's happening at the plate boundary where the Australian Plate and the Pacific Plate meet?_____

_____

74. What geological event is most likely to occur at this plate boundary in the future?_____

_____

Case 3: South America

75. What is happening at the plate boundary where the Nazca Plate and the South American Plate meet?_____

_____

76. What geological event is most likely to occur at this plate boundary in the future?_____

_____

77. Complete the word jumble at the end. Then write your score here:_____

Click *Test Your Skills*

78. Write the letter of the correct answer in space below as you complete the online test.

1. ____	2.____	3.____	4.____	5.____	6.____	7.____
8.____	9.____	10.____	11.____	12.____	13.____	14.____
15.____	16.____	17.____	18.____	19.____	20.____	21.____
22.____	23.____	24.____	25.____	26.____	27.____	28.____
29.____	30.____					

79. What was your final score?_____ *********Review and Correct Any Incorrect Answers.*

<u>Task Seven: Plate Tectonics Game</u>

Use the link below to play the BrainPOP Plate Tectonics game. As you play, write five facts you learned while playing the game on the spaces below. Full URL: https://www.brainpop.com/games/timezonexplatetectonics/
Tiny URL: https://tinyurl.com/jlrucc2

80. _____

81. _____

82. _____

83. _____

84. _____

Don't Forget! Re-Rate Your Learning on the Learning Scale on Page One!