

Name: _____ Date: _____ Period: _____

Theory of Plate Tectonics TASA Worksheet Intermediate

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Provided by Tasa Graphic Arts, Inc. for The Theory of Plate Tectonics CD-ROM
<http://www.tasagraphicarts.com/progplate.html>

1. The Grand Canyon was formed by _____ . It was carved by the _____ .
2. St. Mary's Lake has been _____ by erosion processes.
3. Landmasses are not fixed. They slowly _____ across the globe.
4. _____ are formed when landmasses split apart.
5. The ocean floor has been _____ into Earth's interior.
6. Landmasses that were once separated by oceans, have collided to form _____ .
7. The earthquake in the Santa Cruz Mountains in California was intensified by _____ .
8. Mt. Whitney in California was formed by _____ lithospheric plates.
9. The theory that describes the movement of Earth's outer layer is called _____ .
10. The theory of plate tectonics derived from a hypothesis called _____ .
11. The continental drift hypothesis states that _____ move about the Earth's surface.
12. _____ proposed the idea of continental drift.
13. The supercontinent that existed _____ million years ago was named _____ .
14. Where was Australia located 135 million years ago? _____
15. The evidence that Wegner used to support the hypothesis of continental drift included: _____ , _____ evidence, evidence from _____ , and _____ evidence.
16. South America and Africa seem to fit together like a _____ .
17. Fossils of _____ are found in parts of both South America and Africa.
18. What is the major source of energy for the movement of Earth's outer shell? _____

19. What are the four major layers of the Earth's interior called? _____ , _____ , _____ , and _____
20. The Earth's crust is divided into the _____ crust and the _____ crust.
21. The most common rock in the upper crust is _____ (igneous).
22. The oceanic crust is composed of the igneous rock called _____.
23. What are the two other main divisions of Earth's interior? _____ and _____
24. Where is the asthenosphere located? _____
What is it composed of? _____ that is capable of _____ movement.
25. The lithosphere is strong because it is composed of _____.
26. The weak rock within the _____ allows Earth's rigid outer shell to _____.
27. Our knowledge of the ocean floor grew with the development of _____
_____ .
28. The above technology determines _____.
29. It measures the time required for a _____ _____ to travel from the seafloor and back.
30. The speed of sound in water is _____ meters per second.
31. What is the correct water depth for an echo travel time of 10 seconds? _____, 3.8 seconds, _____, 7.2 seconds, _____ .
32. _____ are long, narrow troughs that form the deepest parts of the ocean.
33. Trenches often parallel regions that have chains of active _____.
34. A submerged volcanic peak is called a _____.
35. The _____ _____ _____ is the longest topographic feature on Earth's surface.
36. A deep, narrow valley on the summit of the oceanic ridge is called a _____ .
37. Sea water flowing through hot, volcanic rock is called _____.

38. By 1968, Wegner's continental drift hypothesis had expanded into a theory known as _____.
39. The lithosphere is the strong, rigid layer that overlies a hotter, weaker layer in the mantle known as the _____.
40. The lithosphere is broken up into segments called _____.
41. The seven major plates are _____, _____, _____, _____, _____, _____, and the African plate.
42. Most earthquakes, volcanoes, and mountain building occur along _____.
43. The three types of plate boundaries are _____, _____, and _____.
44. When two plates move apart there is a _____ boundary.
45. When two plates move together there is a _____ boundary.
46. When two plates grind past each other there is a _____ boundary.
47. Where are the most divergent plate boundaries found? _____
48. _____ occurs when two landmasses split into smaller continents, where forces pull plates in _____ directions.
49. The crust fractures to form a long trough called a _____.
50. What are the eventual outcomes of a rift valley? _____
51. Convergent plate boundaries form where continental lithosphere overrides _____, or when an slab of _____ lithosphere descends beneath another, or where two blocks of _____ lithosphere _____.
52. The region where the oceanic lithosphere descends into the asthenosphere is called a _____.
53. A _____ forms when hot magma rises toward the surface.
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54. The _____ is an example of a mountain chain formed from subduction at a _____ boundary.
55. Volcanoes that grow from the oceanic floor form _____.
56. When two continental plates collide a _____ is formed such as the _____.
57. The _____ is an example of a _____ boundary.
58. What feature is related to a convergent zone? _____
59. What feature is related to a divergent boundary? _____
60. What feature is related to a transform boundary? _____
61. What are the three types of convergent boundaries? _____ - _____ , _____ - _____ , and _____ - _____ .
62. One piece of evidence that supports the plate tectonic theory began in 1968. It was called the _____.
63. Scientists used _____ to assign an age to the ocean floor using _____ techniques.
64. What is the age of the seafloor at site #1? _____
65. Where is the youngest seafloor found? Near the _____
- Does it support the theory of plate tectonics? _____
66. The deep-sea drilling project provided evidence for the theory of plate tectonics. It was useful because it helped discover that the oceanic crust is _____.
67. Another piece of evidence that supports the theory of plate tectonics is _____.
68. Where do most earthquakes occur? _____ or _____.
69. How do scientists locate earthquakes that occur in the middle of the ocean or in remote locations? _____.

70. The source of an earthquake is called its _____. Seismic waves are recorded on a _____.
71. The types of seismic waves are _____, _____, and _____.
72. How do these seismic waves behave? _____, _____, and _____.
73. Which type of wave travels the fastest? _____
The slowest? _____
74. The point on Earth's surface that is directly above the focus is called _____.
75. How many kilometers from the recording station did an earthquake occur if the first P-wave arrived 4 minutes before the S-wave? _____
76. How far is the epicenter from a recording station located in Nagpur, India? _____ Darwin, Australia? _____ Paris, France? _____
77. Where are most earthquakes found? _____
78. A third piece of evidence to support the theory of plate tectonics includes _____ and _____.
79. Magma from the mantle plume creates a hot spot, which has formed the _____.
80. Does a hot spot remain stationary? _____
81. What is the straight line distance from the hot spot in Kauai in kilometers? _____
And in centimeters? _____
82. What is the minimum and maximum velocity of the Pacific plate? Min: _____
Max: _____
83. What is the underlying driving force of plate movement? _____
84. The difference in heating produces _____ where less dense rock _____ and cooler more dense rock _____.
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85. The difference in heating produces _____ where less dense rock _____ and cooler more dense rock _____.

86. As cold dense slabs of oceanic lithosphere sink into the mantle, they pull the trailing plate along. This is known as _____. It is a _____-_____ mechanism.

87. _____ occurs when oceanic lithosphere slides down the flank of the ridge.

87. How long have plate tectonics operated? _____

88. What will happen to Mexico's Baja Peninsula and Southern California? _____

89. In ___ million years it will collide with _____

90. _____ will separate and a new _____ will emerge.

91. _____ and _____ will collide with _____ and these three landmasses will then collide with _____.

92. Plate tectonics is the first theory to provide an explanation for the origin of Earth's major _____, including _____ and _____

You are SO DONE!