Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period: \_\_\_\_

Dynamic Earth Web Quest

Go to: <http://www.learner.org/interactives/dynamicearth/index.html>

Click on “Start your exploration into Earth’s Stucture”

**⮚ Earth’s Structure:**

Mouse over the diagram to respond to the following questions

1. What is the thickness, in miles, of the following layers:

a) Crust: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ under oceans & \_\_\_\_\_\_\_\_\_\_ thick under continents.

b) Mantle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Outer Core: \_\_\_\_\_\_\_\_\_\_\_\_

d) Inner Core: \_\_\_\_\_\_\_\_\_\_\_\_\_

2. Label the diagram of Earth to the right

3. Describe the Lithosphere: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Describe the Asthenosphere:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**⮚ Plate Tectonics:**

5. The Theory of Plate Tectonics is attributed to German scientist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. The original large land mass or “Supercontinent” is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is Greek for “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”.

7. Complete the table:

|  |  |  |  |
| --- | --- | --- | --- |
| **200 million yrs ago** | **135 million yrs ago** | **65 million yrs ago** | **50 – 40 million yrs ago** |
| - \_\_\_\_\_\_\_\_\_\_\_\_\_ begins to break up w/ \_\_\_\_\_\_\_\_\_\_\_\_\_ in the North & \_\_\_\_\_\_\_\_\_\_\_\_\_ in the South | - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ splits - S. America/Africa separates from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ / \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- \_\_\_\_\_\_\_\_\_\_\_\_\_\_ breaks away from Antarctica/Australia | - Laurasia begins to separate with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ breaking apart- S. America & Madagascar split from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ separates from N. America- \_\_\_\_\_\_\_\_\_\_\_\_\_ separates from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & moves North- Indian landmasses collide w/ \_\_\_\_\_\_\_\_\_\_\_\_\_ |

8. Plate Tectonics Theory has been widely accepted since the \_\_\_\_\_\_\_\_\_\_\_’s. It states that Earth’s outer layer or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is broken up into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. These plates hold \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. They are constantly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

9. **Continents over time** BONUS QUESTION: Since the plates are constantly in motion, scientists predict that 250 million years from now the continents will come together to for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**⮚ Plate Boundaries:**

10. Continental crust underlies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ miles thick,

whereas \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is found under the ocean and is only \_\_\_\_\_\_\_\_\_\_\_ miles thick.

11. Name the three types of plate boundaries below. Create a simple diagram of each including arrows to show the direction of their movement & list some examples of that type of boundary

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Boundary | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Boundary | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Boundary |
| Diagram: | Diagram: | Diagram: |

 12. Use colored pencil or marker to

 indicate the types of boundaries on the

map to the right. Create a key below:

Convergent

Divergent

Transform

Label the following plates on the map:

N. America Plate, Eurasian Plate, Pacific

Plate, Antarctic Plate, African Plate

13. How many plates did you place

correctly? \_\_\_\_\_\_\_\_\_\_ score

**⮚ Slip, Slide & Collide**

14. At **convergent boundaries** tectonic plates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Roll over the diagram to define the following terms:

a) subduction zone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b.) trench: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c.) volcanoes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d.) tsunami:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Mountain range in Asia that was formed by colliding tectonic plates: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This mountain range continues to grow by \_\_\_\_\_\_ inch(s) per year.

17. At **divergent boundaries** tectonic plates are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

18. What is Sea Floor Spreading? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. Volcanoes form in both \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ boundaries.

20. At **transform boundaries** tectonic plates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

21. A crack or fracture in Earth’s crust is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

22. Explain what causes earthquakes. Provide a detailed answer & include the terms: tectonic plates & stress in your response. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

23. What type of fault is the San Andreas Fault in California? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

24. The San Andreas fault runs between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plates and is approximately \_\_\_\_\_\_\_\_\_\_\_\_\_ miles long.

25. Interactive Quiz: Plate Interactions Challenge – What was your best Score? \_\_\_\_\_\_\_\_

TEST SKILLS: Complete this section and be prepared to print PAGE 1 ONLY of the Results page when you finish.

You answered \_\_\_\_\_\_\_ out of 30 questions correct. Your score was \_\_\_\_\_\_\_%