Plate Tectonics Webquest

I. Layers of the Earth

1. Click on (it may take a second to open): [http://www.learner.org/interactives/dynamicearth/structure.html](http://www.learner.org/interactives/dynamicearth/structure.html)
   
   a. Click on each layer of the Earth to see the properties and description of that layer.
   
   What are the 4 main layers of the Earth?
   
   ________________________________________________________________
   ________________________________________________________________

   b. Click on the Mantle. The Mantle is divided into 2 layers, what are the names of the 2 layers? _____________________________ and _____________________________.

   c. How thick is the Mantle? How does the thickness of the Mantle compare to the thickness of the Crust?
   
   ________________________________________________________________
   ________________________________________________________________

   d. Click on the Inner Core. What is inside of the inner core?
   
   ________________________________________________________________

2. Go to [http://scecinfo.usc.edu/education/k12/learn/plate1.htm](http://scecinfo.usc.edu/education/k12/learn/plate1.htm) (it may take a minute to load) and click on the green button that says click here to see inside the Earth. Click on the blue button for each layer and answer the following questions.

   a) What is the thickness of the Crust __________________________________

   b) What is the thickness of the Mantle __________________________________

   c) What is the thickness of the Outer Core ______________________________

   d) What is the thickness of the Inner Core ______________________________

3. Click on the following link [http://scecinfo.usc.edu/education/k12/learn/eq1.htm](http://scecinfo.usc.edu/education/k12/learn/eq1.htm)

   a) Summarize what causes earthquakes. Be sure to use tectonic plates in your explanation!
   
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
b) Click on “What causes stress?” at the bottom of the page. Explain how stress can cause earthquakes.

II. Pangaea & Continental Drift

4. Go to http://www.exploratorium.edu/origins/antarctica/ideas/gondwana2.html
What are the two halves of Pangaea called?
____________________________________________ and ______________________________

5. When did Pangaea split into two landmasses?
___________________________________________

6. Click on “Fossils” and explain how fossils help prove the Theory of Pangaea.
____________________________________________
____________________________________________

7. Click on “More Fossils”. What does this reading say about what Antarctica used to be like?
____________________________________________
____________________________________________

8. What happened to Antarctica?
____________________________________________

9. Click on http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Continents.shtml

a) Watch the animation of Pangaea moving just below title “All About Plate Tectonics: Earth's Plates and Continental Drift” Watch the movement of each continent Describe the movement of India.
____________________________________________
b) What is the theory of plate tectonics? (Scroll down to under subheading “PLATE TECTONICS”)?

__________________________________________________________________________

__________________________________________________________________________

c) Explain the theory of continental drift in your own words

__________________________________________________________________________

__________________________________________________________________________


a) What is the name of the two fossils that the scientist used to support his theory of Pangaea?

_________________________ and ________________________

III. Plate Tectonics


   a) What is the border between two plates called (scroll under picture)?_________________________

   b) A ___________________________ boundary occurs when two plates are pushing toward each other.

   c) A divergent boundary marks two plates ________________________________________________

   d) A ___________________________ boundary occurs when two plates _______________________

   e) Scroll to the bottom and take the plates and boundaries challenge. What is your score? _____________

12. Go to http://www.learner.org/interactives/dynamicearth/slip.html Scroll to the bottom and click on “See what happens at different plate boundaries.” Click on the words on the diagram to learn more about the different types of boundaries.

   a) The first boundary picture is when an ocean crust collides with a continental crust. What type of landform is formed in this picture?
b) What is a subduction Zone?

_____________________________________________________

c) Define what island arcs are from the reading.

___________________________________________________________

13. Scroll down to the second boundary picture (the bigger pictures, not the little one). This is a picture of two continental crusts colliding with each other.

   a) What type of landform is formed in this picture?
       _______________________________________________________

   b) What famous mountain chain was formed this way?
       _______________________________________________________

Click on next at the bottom of the page and click on start to start the animation.

   c) What type of landform is formed in this animation?
       _______________________________________________________

14. Scroll down to transform boundaries

   a) Read about earthquakes. Describe how earthquakes happen using your own words.
       _______________________________________________________
       _______________________________________________________
       _______________________________________________________

   b) Scroll to the bottom and take the plate interactions challenge. What is your score?
       _____________________________

IV. Play a Game! Test your geography and science knowledge 😊

15. Go to http://www.quia.com/rr/38064.html and see if you can win a million dollars playing “Rags to Riches.” Keep trying until you win!