Plate Tectonic Webquest

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Site 1: http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Continents.shtml
Site 2: http://pubs.usgs.gov/gip/earthq1/how.html
Site 3: http://earthquake.usgs.gov/eqcenter/recenteqsww/
Site 4: http://www.classzone.com/books/earth_science/terc/content/investigations/es1001/es1001page02.cfm
Site 5: http://www.tasagraphicarts.com/activities/Plates.html
Site 6: http://www.tasagraphicarts.com/activities/TasaGeoCube.html

Go to site #1:
Observe the diagram to see how the continents drifted to where they are today. You can also see the movement in reverse!
1. Count the major plates. How many are there?_____
2. The theory of plate tectonics (meaning "plate structure") was developed in the 1960's. This theory explains the movement of the Earth's plates (which has since been documented scientifically) and also explains the cause of _____, _____, _____, _____, and many other geologic phenomenon.
3. The plates are moving at a speed that has been estimated at _____to _____cm per year. Most of the Earth's seismic activity (_____ and _____) occurs at the plate boundaries as they interact.

Types of Plate Movement

- **Divergent Plate Movement:**
  4. _____ is the movement of two oceanic plates away from each other (at a _____ plate boundary), which results in the formation of new oceanic crust (from magma that comes from within the Earth's mantle) along a mid-ocean ridge.
- **Convergent Plate Movement**:
  5. When two plates collide (at a _____ plate boundary), some crust is destroyed in the impact and the plates become smaller. The results differ, depending upon what types of plates are involved. (Oceanic and Continental, two Oceanic plates, and two Continental plates)
- **Lateral Slipping Plate Movement (Transform)**
  6. When two plates move sideways against each other (at a _____ plate boundary), there is a tremendous amount of friction which makes the movement jerky. The plates slip, then stick as the friction and pressure build up to incredible levels. When the pressure is released suddenly, and the plates suddenly jerk apart, this is an _____.

7. Click on the **ACTIVITIES ABOUT EARTH'S CONTINENTAL PLATES AND CRUST and take the interactive quiz about Plate Tectonics. Look at the picture to the right. Did you make a 100?_____**

Go to site #2 to answer the following questions:
8..An _____is the vibration, sometimes violent, of the Earth's surface that follows a release of energy in the Earth's crust. In the process of breaking, vibrations called _____ are generated.
9. A_____ is a fracture in the Earth's crust along which two blocks of the crust have slipped with respect to each other. Faults are divided into three main groups, depending on how they move.
10._____ occur in response to pulling or tension; the overlying block moves down the dip of the fault plane.
11._____ occur in response to squeezing or compression; the overlying block moves up the dip of the fault plane.
12._____ occur in response to either type of stress; the blocks move horizontally past one another. Most faulting along spreading zones is normal, along subduction zones is thrust, and along transform faults is strike-slip.

13. The _____of an earthquake is the depth from the Earth's surface to the region where an earthquake's energy originates (the _____).
14. The _____ of an earthquake is the point on the Earth's surface directly above the focus.
15. Earthquakes beneath the ocean floor sometimes generate immense sea waves or _____ (Japan's dread "huge wave").
16. _____, which happens when loosely packed, water-logged sediments lose their strength in response to strong shaking, causes major damage during earthquakes.
17. _____ triggered by earthquakes often cause more destruction than the earthquakes themselves.

Go to site #3 to answer the following questions:
18. What is the time and the number of earthquakes currents recorded on the map?
Time_____ Number of Earthquakes_____
19. How many earthquakes have occurred within the last hour?_____
20. What was the magnitude of the largest earthquake?_____
Where did it occur?_____
21. Click on the United States on the map. Count how many earthquakes occurred in the U.S. in the last hour, day, and week. _____hour _____day _____week
22. Where do you notice most of the earthquakes occur in the U.S.?_____
Click "Do You Feel It?" in the left margin. Click on Georgia.
23. List the 3 most recent earthquakes in our region

Location	Date	Time	Magnitude
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Go to site #4. Answer the questions on each slide.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

If time allows go to site #5 Have fun placing the tectonic plates in the correct position.

Go to site #6 to play games testing your geologic knowledge!