

# APES Earth Webquest

Open a web browser and go to <http://www.multiurl.com/g/j5F>

**I. Earth's Interior:** Explore the interior of the Earth and record a location and composition for each of the following <http://www.learner.org/interactives/dynamicearth/swfs/earth.swf>

Earth Layer	Location	Composition
Crust		
Mantle		
Lithosphere		
Asthenosphere		
Outer Core		
Inner Core		

**II. Geologic Time Scale** [http://archive.fieldmuseum.org/evolvingplanet/POST/EP\\_V8.swf](http://archive.fieldmuseum.org/evolvingplanet/POST/EP_V8.swf)

1. Based on scientific estimates, how old is the Earth? \_\_\_\_\_
2. What are the building blocks of the planets in our solar system? \_\_\_\_\_
3. What happened in the Proterozoic Eon that is so incredibly important to animal life on this planet?  
\_\_\_\_\_
4. In what time period did human beings evolve? \_\_\_\_\_

**III. Plate Tectonics:** <http://ees.as.uky.edu/sites/default/files/elearning/module04swf.swf> Click on Maps.

1. On the map below, use different colors to mark the plate boundaries, volcanoes, earthquakes, hotspots, and names of the plates.



2. Click on Motion. When could have animals migrated from Europe to North America across the land? \_\_\_\_\_  
When could have animals migrated from Africa to South America across the land? \_\_\_\_\_

3. Click on Details. Check out the different plate tectonic movements and draw them in the boxes below.

Subduction (convergent)	Continental Rift (divergent)	Mid-ocean ridge (seafloor spreading)
Transform (faults)	Hotspots	Plate collision (convergent)

**IV. PBS Savage Earth:** Watch the animation and follow the directions.

<http://www.pbs.org/wnet/savageearth/animations/earthquakes/main.html>

1. What is the underground starting point of the earthquake called? \_\_\_\_\_
2. How long does it take (in minutes) for the first P-waves to reach Wisconsin? \_\_\_\_\_ How long does it take (in minutes) for the first S-waves to reach Wisconsin? \_\_\_\_\_
3. Which type of wave is able to penetrate the core? \_\_\_\_\_
4. Why don't people on the other side of the Earth from the epicenter feel the earthquake?  
\_\_\_\_\_

**V. Discovery Volcano Explorer:**

<http://kids.discovery.com/games/build-play/volcano-explorer>

1. Where can many of the world's active volcanoes on earth be found? \_\_\_\_\_

Click on Volcano types near the left of the page. Check out the 3 types of volcanoes.

2. What is a famous stratovolcano in the United States? \_\_\_\_\_
3. Cinder Cone volcanoes typically have steep sides and are less than \_\_\_\_\_ feet high.
4. What are the largest volcanoes on Earth? (Hint: They make islands) \_\_\_\_\_

Click on Build your Own Volcano and Watch it Erupt.

5. What two factors determine the shape and explosiveness of volcanoes? \_\_\_\_\_
6. Adjust the conditions so that the resulting volcano is a Shield Volcano. What are the conditions ?  
\_\_\_\_\_ Viscosity & \_\_\_\_\_ Gas
7. Click Start Eruption. How high can Fire Fountains rise out of the volcano? \_\_\_\_\_

**VI. National Geographic Forces of Nature:** Click on the Earthquake tab.

<http://www.nationalgeographic.com/forcesofnature/>

1. How many earthquakes do scientific instruments detect worldwide each year? \_\_\_\_\_

2. The deadliest earthquake took place in the country \_\_\_\_\_ in the year \_\_\_\_\_

Click Tab 3, read caption, and follow directions to fly to the San Andreas Fault.

3. The San Andreas Fault stretches more than \_\_\_\_\_ miles long and at least \_\_\_\_\_ miles deep

Click Tab 4

4. What are the 4 types of faults? \_\_\_\_\_

Click on Tab 5

5. Sensitive instruments that measure P-waves are called \_\_\_\_\_. The scientists then assign magnitudes to quakes using the \_\_\_\_\_ scale.

Click on Tab 6 and follow directions for the animation.

6. What is the latitude and longitude of the epicenter of the earthquake? \_\_\_\_\_  
\_\_\_\_\_ What is the magnitude of the earthquake? \_\_\_\_\_

Click on Tab 7 and follow directions for the animation.

7. Which ground type is the most stable for high magnitude quakes? \_\_\_\_\_ Which ground type will result in the most damage for high magnitude quakes? \_\_\_\_\_

Click on Case Studies.

8. Which earthquake had the highest death toll? \_\_\_\_\_ What was the death toll? \_\_\_\_\_

9. Which major earthquake was the most recent? \_\_\_\_\_ When was it? \_\_\_\_\_

10. Which earthquake was the strongest? \_\_\_\_\_ What was the magnitude? \_\_\_\_\_

11. What time of day do most of these major earthquakes occur? \_\_\_\_\_ Why? (take a guess).

