

# How Has the Movement of Earth's Tectonic Plates Shaped Earth's Surface?

Study the location of each of the features on the map below. Then, label them in the correct place on your Plate Tectonic Map. Note: The picture below is not laid out exactly the same as your map, although it's very close, so find a reference point (like North America) before starting to ensure you put everything in the correct spot.



Use the links below to learn more about each of the locations marked on the map. Then, answer the questions on the attached worksheet. You do not need to use complete sentences for your answers. Links are available (hyperlinked) on PowerSchool.

**Mount St. Helens:** [http://mshinstitute.org/index.php/news\\_and\\_research/history\\_of\\_msh](http://mshinstitute.org/index.php/news_and_research/history_of_msh)

**San Andreas Fault:** <http://pubs.usgs.gov/gip/earthq3/safaultgip.html>

**East Pacific Rise and Mid-Atlantic Ridge:**  
[http://oceanexplorer.noaa.gov/explorations/05galapagos/background/mid\\_ocean\\_ridge/mid\\_ocean\\_ridge.html](http://oceanexplorer.noaa.gov/explorations/05galapagos/background/mid_ocean_ridge/mid_ocean_ridge.html)

**Hawaiian Islands:** <http://www.marinebio.net/marinescience/02ocean/hwgeo.htm>

**Mariana Trench:** <http://deepspacechallenge.com/the-expedition/mariana-trench/>

**Ring of Fire:** [http://education.nationalgeographic.com/education/encyclopedia/ring-fire/?ar\\_a=1](http://education.nationalgeographic.com/education/encyclopedia/ring-fire/?ar_a=1)

**Himalayas:** <http://pubs.usgs.gov/gip/dynamic/himalaya.html>

**Andes Mountains:**  
<http://www.coolgeography.co.uk/GCSE/AQA/Restless%20Earth/Andes/Andes%20Case%20study.htm>

**Iceland:** <http://www.livescience.com/31566-iceland-tectonic-plates-meet.html>

**Aleutian Islands:** <http://www.learner.org/interactives/dynamiearth/slip2.html>



6. How much of the Earth's mid-ocean ridge(s) have we explored? \_\_\_\_\_ % Which two things in space have we explored MORE than Earth's underwater mountain chains?

\_\_\_\_\_ and \_\_\_\_\_

### **Hawaiian Islands**

1. Why is Hawaii geologically unique (special)? \_\_\_\_\_

2. Under which tectonic plate is Hawaii's hot spot? \_\_\_\_\_

3. What happens to the Hawaiian islands that move away from the hot spot? \_\_\_\_\_

4. What will be the name of the next Hawaiian island after Hawaii? \_\_\_\_\_

### **Mariana Trench**

1. What is the deepest point of the Mariana Trench called? \_\_\_\_\_

2. How deep is the deepest point of the trench? \_\_\_\_\_ miles

3. The Mariana Trench formed from the subduction of the Pacific plate underneath the Phillipine plate.

a) Which plate is more dense and how do you know? \_\_\_\_\_

b) What type of boundary occurs between these two plates? Divergent / Convergent / Transform

4. How many feet deeper is the Mariana Trench, than Mt. Everest is tall? \_\_\_\_\_ feet

### **Ring of Fire**

1. What is the Ring of Fire? \_\_\_\_\_

2. What shape more accurately describes the Ring of Fire? \_\_\_\_\_

3. How many volcanoes are along the Ring of Fire? \_\_\_\_\_

4. Explain how each of the following features is affected by the movement of tectonic plates in and around the Ring of Fire.

Mount St. Helens:

East Pacific Rise:

California's West Coast:

