

Essential Question: What scientific evidence supports the theory of plate tectonics?



1. **How Fossils Help Us Learn About the History of the Earth** (40 points)

**Circle the word in ( ) that best completes each statement.**

- a. Fossils can provide important (**clues, colors**) about the history of the Earth. For example, (**fossils, hats**) of ocean-dwelling organisms can be found in rocks that are now far from any oceans, indicating that these areas were once under (**water, investigation**). Fossils also provide evidence that the Earth's tectonic (**plates, popsicles**) are moving.
- b. **True or False:** Fossils provide examples about prehistoric life.
- c. **True or False:** The Earth's features have changed greatly over time.
- d. What are trilobites? What happened to them? How do we know about them? Draw one.

e. How do fossils provide evidence of continental drift?



2. **Topography** (30 points)

Define topography -

How do the physical features (topographic features) of the land influence what is sold there? Give an example.

How does topography influence the economy of the culture?







Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period 8 - \_\_\_\_\_ **596 points + 4 neatness bonus**

**10 points per day for having packet** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**Plate Tectonics - Evidence for Plate Tectonics**

**DUE DATE:** \_\_\_\_\_



7. Stack the slices back up in order on the cardboard. Be sure the holes line up.
8. Admire your topo map!
9. Compare the topographic map you have just made to the model mountain.
10. Why are some of the traced lines closer together than others?
11. What kind of slope gives you lines that are close together?
12. What kind gives lines that are far apart?
13. On your topographic map, where are the steepest slopes?
14. Looking at your map, where would be the best place to build a trail to climb to the top of the mountain?

---

4. Which of the following does not provide evidence that the continents were once joined together? (2 points)

- A) Fossil of the same reptiles are found on different continents
- B) Different continents have mountains and rocks that are the same age and type.
- C) The coastlines of some continents seem to match up.
- D) Ancient maps left by early humans show only one large continent.

5. What is Pangaea? (2 points)

- A) the process by which tectonic plates move around the Earth
- B) the name of the scientist who first discovered plate tectonics
- C) the name of the ancient supercontinent
- D) a type of thick, sticky lava

6. Which phenomena is not evidence to support plate tectonics? (2 points)

- A) The shapes of continents appear to match.
- B) Some continents are larger than others.
- C) Mid-ocean ridges are continually formed.
- D) Rocks of all ages can be found on both sides of oceans.







10. **Prove They Move** (100 points)

In this Exploration you will categorize pieces of evidence as supporting continental drift or plate tectonics to discover why these theories are accepted.

1. What is the theory of continental drift? How does it differ from the theory of plate tectonics?
  
2. What evidence did Alfred Wegener find?
  
3. Name two pieces of evidence supporting the theory of plate tectonics.

How to Use This Exploration

1. Read the Introduction and click the Continue button.
2. Roll the mouse over each piece of evidence to reveal the hint. Drag each to the correct category.
3. Read the outcome explanations as they appear and take notes.
4. Read the popup text and click on the Next button. Watch the video clip, replay as necessary, and take notes.

Evidence for	Continental Drift	Evidence for Plate Tectonics
Physical Evidence	Fossil Evidence	



13. Circle the word in ( ) that best completes each statement. (10 points)

The coastlines of North America and Africa and South America and Africa have similar **(contours, eyes)** because they were once all **(together, cousins)** as a large super **(continent, salad)** called **(Pangaea, Panda Express)**. Over time, forces within the **(mantle, family)** of the **(Earth, aliens)** have caused two lithospheric **(plates, writers)** to **(spread apart, write a book)**. The break up of the super **(continent, family)** caused South and North America to split apart from Africa. The coast line of North America looks like a **(puzzle, pie)** piece that fits together with the northern part of Africa. The eastern coastline of South America matches like a **(puzzle, game)** piece with the west coast of Africa. Satellite and topographic maps have provided more evidence to this theory of continental **(drift, river)** and plate **(tectonics, technology)** because these types of maps and images give pinpoint details to the contours of the coastlines. The analysis of topographic maps will show similar elevations on the coasts of each continent.

14. Describe how the contours of the coastlines of North America, South America and Africa have similar characteristics and provide evidence as to why they are similar. (20 points)

15. Describe how satellite images and topographic maps provide physical evidence for the theory of plate tectonics. (20 points)