

Internal Forces That Shape the Earth

Chapter 1.2

Name _____

Class Period _____ Assignment # _____

Background: The Earth is a dynamic planet. Both forces from within the earth’s interior and forces that work on the exterior crust constantly change and reshape Earth’s landscape.

Pre-reading: In the space below, brainstorm at least six factors that shape the surface of the Earth. Next to each factor, type an “I” if the factor is an “internal” force that changes the earth from the inside, or “E” if the factor is an “external” force that changes the earth from the outside.

Factor that shapes the Earth’s Surface	I or E	Factor that shapes the Earth’s Surface	I or E
Vegetation	E		

Web Article: Go to the following website <http://pubs.usgs.gov/gip/dynamic/dynamic.html> You will explore the article “This Dynamic Earth: The Story of Plate Tectonics.” Scroll to the bottom of the page and click on “Historic Perspective.”

Scientific theories develop over time based on available evidence.

1. Define “catastrophism.”
2. Define “uniformitarianism.”
3. What is the first evidence to suggest that the continents were once joined together and separated?
4. Who suggested *Continental Drift Theory* in 1912?
5. List 3 kinds of evidence used to support *Continental Drift Theory*.
6. What is the one critical question *Continental Drift Theory* could not answer?
7. If there is enough evidence to support *plate tectonics*, why is it still called a *theory*?

Click on the link to “Developing the Theory.”

8. How did the discovery of rugged topography and relatively little accumulation of sedimentary rock and debris on the ocean floor support Continental Drift Theory?
9. How did the discovery of the pattern of magnetic variation in oceanic rock help support Continental Drift theory?
10. Define *sea floor spreading*:
11. What happens at *trenches* in plate tectonic theory?
12. How did the world map of seismic activity support Continental Drift/Plate Tectonic theory?

Click on the link to “Understanding plate motions.”

13. Complete the following chart on plate movements:

Type	Description	Example
Divergent	Sea Floor Spreading: Rifting:	
Convergent	Oceanic-Continental: Oceanic-Oceanic: Continental-Continental:	
Transform		

14. Define *subduction*:
15. How does GPS technology confirm plate movement?

Click on the link to “Hotspots.”

16. How does the “hotspot” theory explain volcanism in places far from plate boundaries?

17. What does new research suggest about hotspots?

Click on the link to "Some unanswered questions."

18. Define *convection*:

19. What could cause the heat to create convection in Earth's interior?

20. Define *slab pull*:

Textbook (pages 44-47):

21. According to geologists, how old is Earth?

22. What is the difference between magma and lava?

23. What force do scientists think moves the earth's plates?