

Plate Tectonics Introduction

Name _____

Use this web site and animations to answer the plate tectonics questions below:

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

This Dynamic Earth: U S Geological Survey

Chapter Heading: Preface

1. What geologic processes do plate tectonics affect?

Chapter Heading: Historical Perspective

2. What is a plate?
3. What does “tectonic” mean?
4. Briefly outline the theory of plate tectonics.
5. A main part of the theory of plate tectonics is the theory of continental drift. How has the position of the continents changed from ~225 million years ago (Ma) to now?
225 Ma:

Now:

Inspect the series of five figures illustrating how and when Pangaea broke up.

6. When (approximately – age range) did South America and Africa break apart forming the Atlantic Ocean?
7. When (approximately – age range) did India collide with Asia?
8. What has been happening to the North Atlantic Ocean in the past 65 million years?

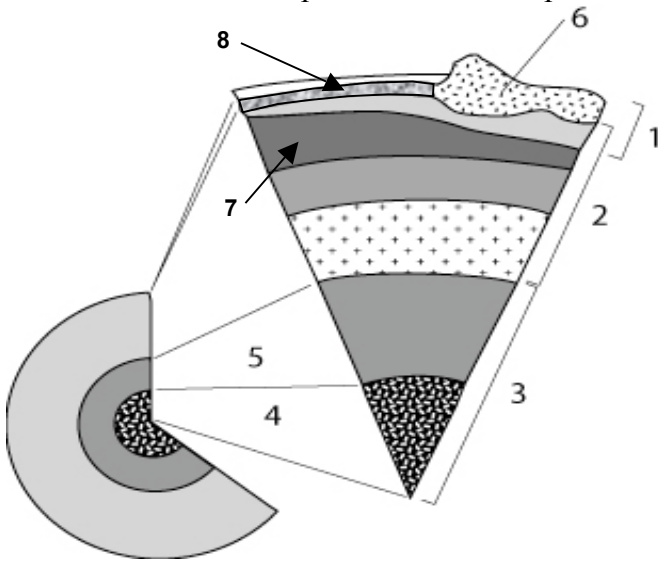
Return to web site window “Historical Perspective” and select the map “tectonic plates”.

9. What are the names of the two large plates closest to us in California?
10. Note that landmasses on this map are lighter than the marine regions. Does the plate boundary between the North American and Eurasian Plates lie along a coast?

Go back to “Historical Perspective”. Click on “Inside the Earth” (Sidebar at the bottom of the page).

11. What are the 3 main layers of Earth? (we call these the compositional layers in GEOL 102)
12. What is the Lithosphere?

13. What is the Asthenosphere?
14. Label the lithosphere and asthenosphere on the diagram below.



Return to “Historical Perspectives”, then to “Contents” (bottom of page), then to “Understanding Plate Motions”.

15. What are the three types (well defined) of plate boundaries, how do plates move here, and are plates created or destroyed here?

<u>Plate Boundary type</u>	<u>Plate Motion</u>	<u>Destroyed, Created, Neither?</u>
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16. Give two examples of divergent plate boundaries (give a geographic location).

17. Why doesn't continental crust in a convergent zone subduct?

18. Where do most transform boundaries occur?

19. What is a plate boundary zone?

20. Look at the figure of the San Andreas Fault in the Transform boundaries section. Based on this figure, on what tectonic plate is Cal State Fullerton?