Worksheet: Plate Tectonics

name:

*Use sentences. (starts on page 194 of the honors text)

1. Look at the map atop page 195. About how many million years ago did the Earth look like this?

2. Who is credited with coming up with the idea that the continents were once joined together? What was his radical hypothesis called?

3. *What was probably <u>the first</u> evidence that led some to suspect that the continents were once connected?

4. *Look at figure 7.4 on page 197 and read p. 196. How did Wegener explain the presence of Mesosaurus fossils in both South America and Africa (but nowhere else)?

5. *If the continents were once joined, the rocks near the edges of the continents should match. What two characteristics of the rocks (NOT the mountains) would match?

6. *What is the main point illustrated in figure 7.6 on page 198?

7. *Read page 198. What do the white areas <u>on the left map</u> on page 199 represent?

8. *How did Wegener explain the evidence of glaciers on land that is so close to the equator?

9. Map C on p. 199. How many millions of years ago do scientists think these glaciers were present?

10. *Wegener published his theory in 1915, but it didn't get much attention until 1924. Why 1924?

11. *What was the main argument against his theory?

12. Wegener died in 1930 and his theory was not accepted until the late 1960s. According to p. 200, what do we call the theory today?

13. How many tectonic plates (crustal plates) are shown on pages 202-203? Be careful not to count some of them twice.

14. What are the types of motions that take place at plate boundaries listed below? transform convergent

divergent

15. Read about divergent boundaries (201-207). Besides mid-ocean ridges and rift valleys, what has "seafloor spreading" produced over the past 165 million years?

16. Look at figure 7.11. What has formed on the ocean floor along this plate boundary?

17. *What is the point of the series diagrams in figure 7.12 on page 204?

18. Compare the map in figure 7.13 on page 206 with the diagrams in figure 7.12 on p. 205. Which of the diagrams in figure 7.12 (A, B,C, or D) best represents what is happening in the Mt. Kilimanjaro area today?

19. Which diagram in figure 7.12 represents what is going on in the area of the Red Sea (figure 7.13 on page 206)?

20. Compare the map on pages 202-203 to the one on the bottom of page 206. Where you see spiked lines on page 202-203, what is found on the ocean floor on page 206?

21. Find the Aleutian Trench on the bottom of p. 206. Which diagram on page 207 (7.15 or 7.16) best illustrates the geology of the Aleutian Trench?

22. Which one (7.15 or 7.16) best represents the geology of the Peru-Chile Trench?

23. Look at the map on p. 202-203. Which diagram on page 207 is most like the plate boundary between the Juan de Fuca Plate and the North American Plate?

24. Look at the map on page 239. What does each red dot represent?

25. *Compare the map on page 239 to the one on pages 202-203. Explain the very noticeable correlation between the two maps.

26. Study figure 7.17 on page 208. Explain (2-4 sentences) how the Himalayas formed. Be sure to tell when they started to form and why fossils of marine organisms can be found in the Himalayas.