Name: _____ Date: _____ Group: _____

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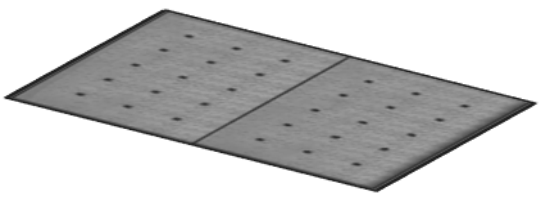
Part I: Modeling Plate Movement

Label the cross-section diagram of your model below using the words lithosphere and asthenosphere. The large cracker piece on the bottom **does not** need to be labeled.

CROSS-SECTION
DIAGRAM OF MODEL

Figure ONE: Draw in arrows to show direction of cracker movement in steps 5 and 6. Label the lithospheric plates. Draw in the asthenosphere and label it.



1. Did your plates converge, diverge, or transform?

   _____

2. What do you feel as the sides of the crackers slide past each other?

   _____

3. What event might occur when plates move in this manner?

   _____

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Part I: Modeling Plate Movement, continued

Figure TWO: Draw a cross-section of your model as it looks in steps 7 and 8. Add arrows to show movement direction. Label the lithosphere and the asthenosphere.	1. Did your plates converge, diverge, or transform? _____ 2. What **landform** is created on the surface of Earth when plates move in this manner? _____
Figure THREE: Draw a cross-section of your model as it looks in step 9 and 10. Add arrows to show the direction of movement. Label the lithosphere and the asthenosphere.	1. Did your plates converge, diverge, or transform? _____ 2. What do you see between the crackers (what is exposed?) on your model? _____ 3. Is crust created or destroyed when plates move in this manner? _____
Figure FOUR: Draw a cross-section of your model as it looks in step 11 and 12. Add arrows to show the direction of movement. Label the subduction zone, the lithospheric plate containing oceanic crust, and the lithospheric plate containing continental crust.	1. Did your plates converge, diverge, or transform? _____ 2. What leaked out when one cracker overlapped the other on your model? _____ 3. When Earth material leaks through crust, what kind of **landform** is created as plates move in this manner? _____

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Part II: Alfred Wegener and the Theory of Continental Drift

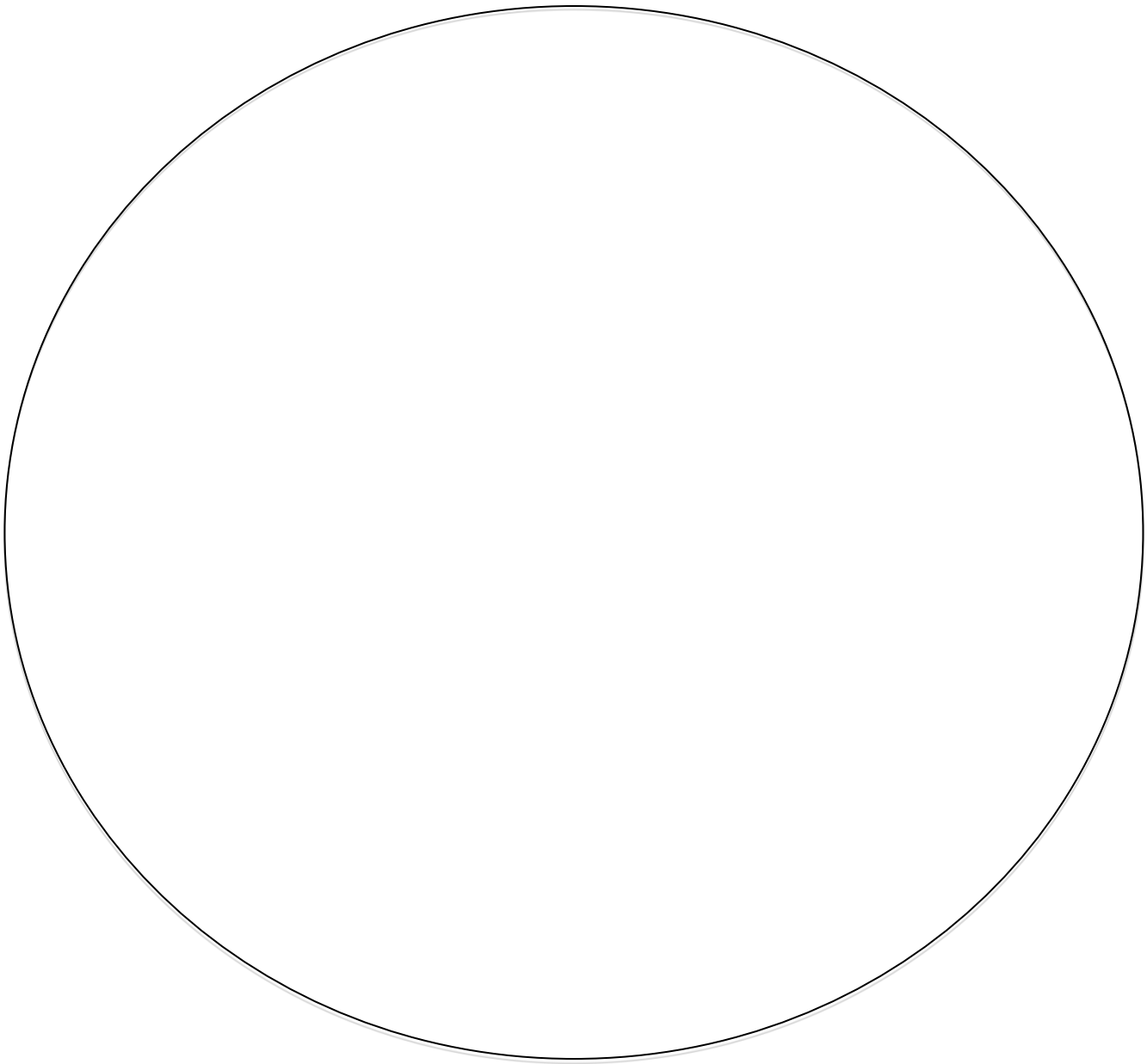
1. What was Wegener's theory of Continental Drift? What evidence did he use to support it?

_____

_____

_____

2. Paste the landmasses together in the space below. Use the legend to match up the fossils, fossil evidence of climate change, and the shapes of landmasses.



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Part III: Ancient Earth

Paste or tape the maps of Earth as it changed through ancient history in the spaces below. Then draw in your prediction of what the landmasses will look like 200 million years from today in the last box.

PERMIAN
225 million years ago
(the supercontinent)

TRIASSIC
200 million years ago

JURASSIC
150 million years ago

CRETACEOUS
65 million years ago

PRESENT DAY

Draw in your prediction of what you think the landmasses will look like 200 million years from today.

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Reflections and Conclusions

1. What are the different ways tectonic plates move in relation to each other?

2. What landforms could be the result of diverging plates? Name a location where this occurs.

3. What landforms could be the result of converging plates? Name a location where this occurs.

4. What major event could occur as the result of transforming plate? Name a location where this occurs.

5. If crust is constantly created at divergent boundaries, why isn't Earth getting larger?

6. An area with many volcanoes that includes the western borders of South, Central, and North America, the southern border of Alaska, and the eastern border of Japan is often called the Ring of Fire. Why did so many volcanoes form in these areas?