Graham Cracker Plate Tectonics

Purpose: 1) Identify forces that shape features of the Earth
2) Predict land features resulting from gradual changes
3) Represent the natural world using models and identify their limitations

Background Information: Plate boundaries are found at the edge of the plates. There are three types:
Convergent – Places where plates crash or push together; Mountains, earthquakes, and volcanoes form where plates collide. When oceanic plates collide with continental plates, the less dense oceanic moves under the continental plate in a process called subduction. When two continental plates collide, mountains form.
Divergent – Places where plates are moving apart, forming rift valleys.
Transform – Places where plates slide past each other; the sliding motion causes earthquakes

Materials:

<table>
<thead>
<tr>
<th>Graham cracker</th>
<th>Cake Frosting</th>
<th>Styrofoam Paper plate</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>Plastic knife</td>
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Procedure & Questions:

1. Spread a thick layer of frosting on the paper plate.
2. Break your cracker into 4 sections.
3. Wet the end of one section with water.
4. Gently put the wet cracker section and a dry cracker section on the layer of frosting.
5. Push the wet cracker and a dry cracker together. Record your observations in a diagram.
What tectonic process(s) does this model?

What is a limitation of this model?

Draw and label a diagram of this process:
6. Place two dry crackers side by side on the frosting. Slide them past each other. 
Record your observations in a diagram. 
What tectonic process(s) does this model? 
______________________________________________________________________ 
What is a limitation of this model? 
______________________________________________________________________ 
Draw and label a diagram of this process: 
______________________________________________________________________ 

7. If the crackers stick together before they move, what process would be modeled? 
______________________________________________________________________ 
What is a limitation of this model? 
______________________________________________________________________ 
Draw and label a diagram of this process: 
______________________________________________________________________ 

8. Place a dry cracker end to end with another dry cracker on the frosting. Push 
them together. Record your observations in a diagram. 
What tectonic process(s) does this model? 
______________________________________________________________________ 
What is a limitation of this model? 
______________________________________________________________________ 
Draw and label a diagram of this process: 
______________________________________________________________________
9. Take two pieces of dry crackers and place them side by side on the frosting.
   Push the crackers down and out at the same time. Record your observations in a diagram.
   What tectonic process(s) does this model?
   
   ____________________________
   What is a limitation of this model?
   
   ____________________________
   Draw and label a diagram of this process:

10. Take two pieces of dry crackers and place them side by side on the frosting.
    Push the crackers together. Record your observations in a diagram.
    What tectonic process(s) does this model?
    
    ____________________________
    What is a limitation of this model?
    
    ____________________________
    Draw and label a diagram of this process: