Modeling Seafloor Spreading

Quick Write: Why are models necessary when studying the Earth?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Think-Pair-Share: We are going to make a model of sea-floor spreading. What types of things should we be sure to include in our model?

1.
2.
3.

Materials:
- 60 cm long paper strip
- 1 box of markers
- 1 bar magnet
- 1 compass
- 1 cardboard box lid
- Meter Stick or ruler

Directions:
1. You will work in a group of four.
2. Pick up materials that will be used for this activity.
3. Assigned jobs:
   - Student A: Paper Puller
   - Student B: Compass Reader
   - Student C: Marker
   - Student D: Magnet Manager
4. Paper Puller: Measure and cut 60 cm of the paper strip. Fold the strip in half lengthwise so it is approximately 30 cm long. Push the ends of the strip through the slit in the lid of a cardboard box so that it is sticking out about 5 cm on the top of the lid. Leave the folded end of the strip underneath the box.
5. Marker: Draw a line in the center of the paper (where it is coming out of the box) making sure to mark both sides of the paper.
6. Compass Reader: Place the compass next to the paper where it is coming out of the box.
7. Magnet Manager: Place the magnet on the opposite side of the paper from the compass.
8. Compass Reader: Observe which direction is North and tell the Marker.
9. **Marker:** Draw an arrow pointing North on both sides of the paper. Label the first section on both sides with an “A”.

10. **Paper Puller:** Pull out some more paper. **Marker:** draw a line in the center of the paper where it came out of the box. **Magnet Manager:** Flip the magnet in the opposite direction. **Compass Reader:** Read the compass. Tell the **Marker** to draw an arrow on pointing to the new North on both sides of the paper. Label the second section on both sides of the paper with a “B”.

11. Repeat step 10 until you reach the end of the paper. Make sure that the **Magnet Manager** flips the magnet each time.

When you have completed the model, discuss the following questions and write down the answers. Be prepared to share your answers with the class.

### Looking at Parts of the Model

<table>
<thead>
<tr>
<th>Model Feature</th>
<th>Actual Earth Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Strip</td>
<td></td>
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<tr>
<td>Paper Strip moving outward</td>
<td></td>
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<tr>
<td>Magnet</td>
<td></td>
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<tr>
<td>Arrows</td>
<td></td>
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<tr>
<td>Sections of the paper strip (A, B, C, etc.)</td>
<td></td>
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<tr>
<td>Flipping the Magnet</td>
<td></td>
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</tbody>
</table>

### Class Discussion Questions

1. What could be added/deleted/changed to make improve this model?

2. Can you think of a way that we could use this model to explain Wegener’s idea of Continental Drift?
Exit Ticket
In the space below, draw a diagram of the sea floor spreading. Include as much detail as you can.