**Sea Floor Spreading Models Instructions**

1. Begin with the page with the diagram cut-through view of the mantle showing convection currents. Fold the paper lengthwise along the fold line “hot dog style”. Focus on the large diagram for now.
2. Label the diagram as follows. The number after the word indicated how many of these features there are that need to be labeled.
   1. Labels for the cut-through view
      1. Asthenosphere (1)
      2. Lithosphere (4)
      3. Mid-Ocean Ridge (1)
      4. Rift Valley (1)
      5. Divergent Plate Boundary (1)
      6. Convergent Plate Boundary (2)
      7. Folded Mountains with some volcanic peaks (1)
      8. Trench (2)
      9. Subduction zone (2)
      10. Island Arc (1)
   2. Labels for top view
      1. Oceanic crust (3)
      2. Continental crust (1)
3. Color the diagram in
   1. Use blue to represent the ocean
   2. Use one color to represent the left-most oceanic crust with the volcanic island arc
   3. Use another color to represent the two slabs of oceanic crust in the middle spreading outward from the mid-ocean ridge
   4. Use another color to represent the continental crust on the far right
   5. Use a bright color like orange or red to represent the magma in the mantel and welling up through the volcanoes
4. The big diagram is the side view while the other part on the other side of the fold is the top view. Drape the model over the edge of the table with the large diagram hanging over the side to get oriented.
5. Next label and color the top of the model so that they match the colors on the cut through view.

STOP HERE – WE WILL FINISH THE MODELS TOMORROW

1. Use the scissors to cut a slit along each of the dark black lines on the top of the model. DO NOT CUT ALL THE WAY TO THE EDGE. It helps to make a light fold perpendicular to the line and make a small snip with the scissors to get the cut started. Then you can open the paper up to cut the rest of the line.
2. Now take the other piece of the model (the piece with all the grey stripes). Cut out the grid along the outer lines and throw the edges away.
3. Cut the two strips apart lengthwise down the middle “hot dog style”.
4. Put the two strips together, one on top of the other with the writing facing the inside, facing one another.
5. Staple the two strips at the end that say “Glue this end to the other strip”.
6. Feed the stapled end into the slit labeled “mid-ocean ridge”.
7. Feed the free end of the left-had strip into the subduction zone on the left.
8. Feed the free end of the right-hand strip into the subduction zone on the right.
9. Hold a free end in each hand and slowly pull the strips of paper through the subduction zones. “New” crust should appear at the mid-ocean ridge. Pull down at the mid-ocean ridge to reset the model.