A Model of Seafloor Spreading

Purpose: The purpose of this activity is to make a simple model that shows the evolution of oceanic crust through sea-floor spreading.

Materials:

- Model of Seafloor Spreading templates [one with three straight lines and another with striped bands or striped bands with arrows]
- Colored pencils or crayons
- Scissors
- Transparent tape

Procedures:

- Give each student or small group of students a Seafloor Spreading template sheet A.
- With a pair of scissors, cut the vertical lines so there will be three slits on the paper all the same height and parallel to each other. You may need to bend the paper at the lines to start the cutting process. DO NOT cut further than the black lines. To reinforce the slits you have made, place tape over each one and re-cut the slit through the tape.
- Give each student or small group of students a Seafloor Spreading template sheet B or C. Use sheet B if you do not want to confuse the students or discuss the changes in the magnetic field with students. Use sheet C if your students understand the changes in the magnetic field. On Sheet B or Sheet C, have students color every other striped band. See the image below. To save time, you may want to instruct one group member to complete this step while the other group member is completing the previous step.

![Image of Seafloor Spreading Model]

- Cut the Seafloor Spreading template B or C paper in half along the dotted line.
- Insert one end of one of the strips of paper through the spreading center line on your Seafloor Spreading Template Sheet A.
- Pull each strip of paper towards the slits nearest the margins of the paper. Tape each strip to make a loop as shown in the diagram below.

![Diagram of Seafloor Spreading Model]

- Circulate the ribbons of paper to simulate the movement that occurs during seafloor spreading.
- Use your Seafloor Spreading Model to answer the questions on the next sheet.
A Model of Seafloor Spreading

Name(s) __________________________________________________

1. What does the center slit in the model represent? ________________________________

Ask the teacher to check your answer and then label it on your model.

2. What do the strips of paper represent? _______________________________________

3. Looking at your model in its current position, describe the “oldest” sections. Explain your answer.
   ____________________________________________________________________________
   ____________________________________________________________________________

4. Seafloor spreading is the creation of _________________________________________.

5. Based on your understanding of Seafloor Spreading, does the earth get bigger? Why or Why Not?
   ____________________________________________________________________________
   ____________________________________________________________________________
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KEY
1. The center slit represents a Mid-Ocean Ridge
2. The strips of paper represent oceanic crust or seafloor.
3. The oldest sections should be the sections on both sides furthest from the middle
4. Seafloor spreading is the creation of new seafloor or new oceanic crust
5. The earth does not get bigger. You can use this question to lead into the next concept of different plate boundaries. Tell the students that they will be learning next why the earth does not get bigger even though new oceanic crust is created.