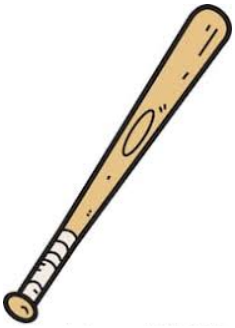
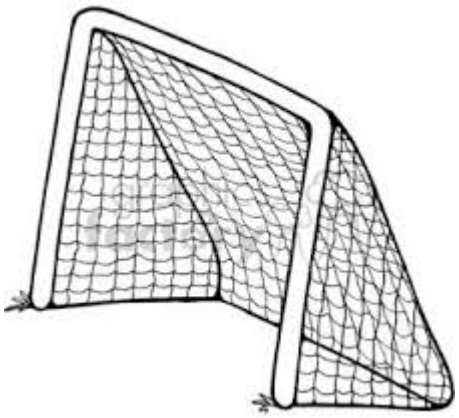
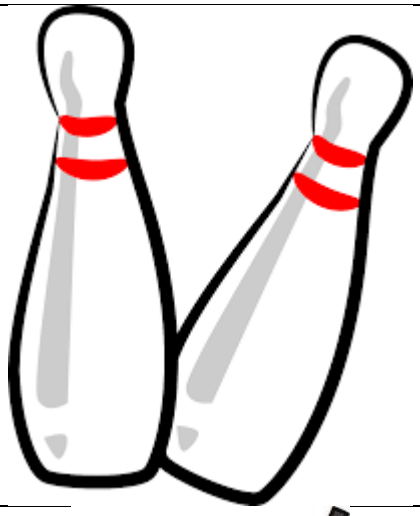
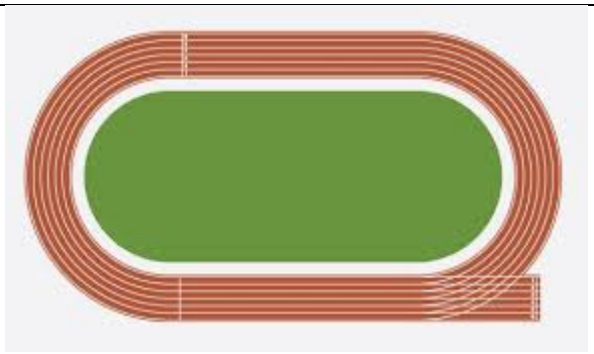
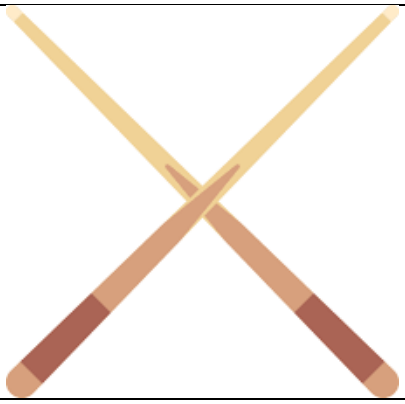
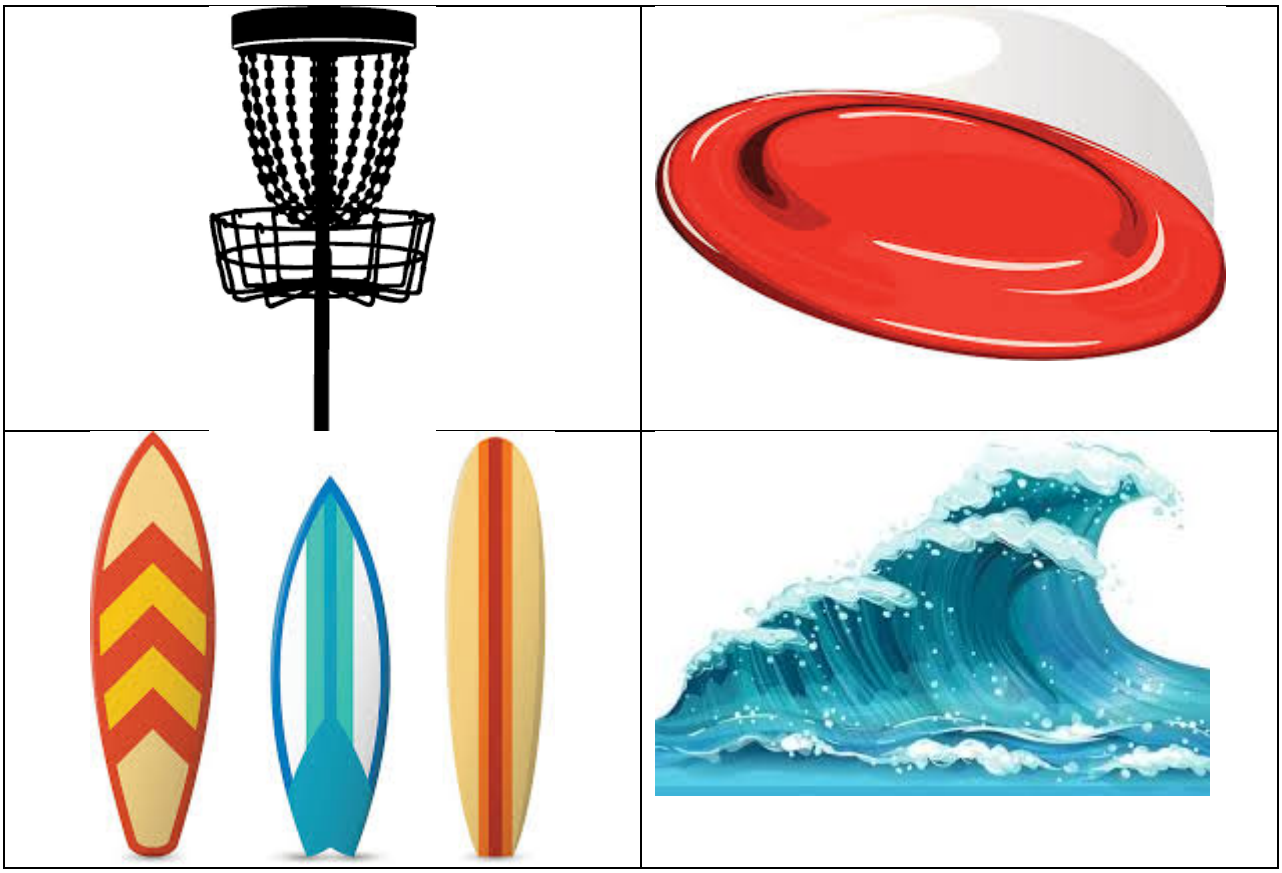
	
	
	



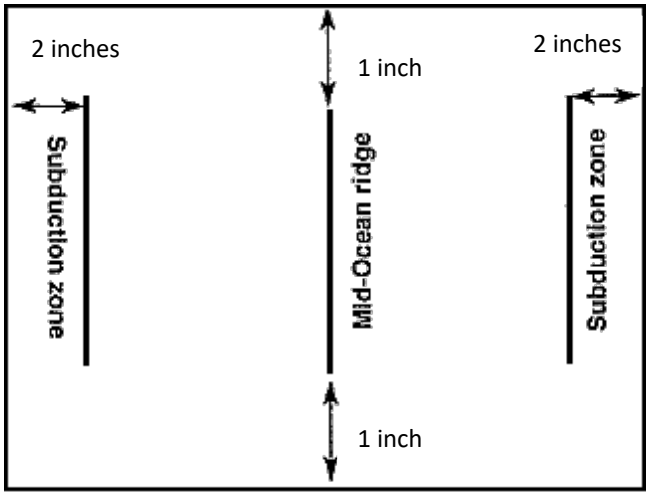
	
	
	

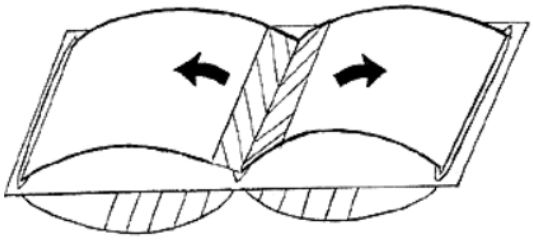


Steps to Create Divergent Boundary Model

1. Cut a 22'' by 28'' poster board into 11'' by 14'' poster boards. Each student pair will need on 11'' by 14'' poster board; cut as many as necessary.
2. Using an X-Acto Knife, cut three slits on each 11'' by 14'' poster board:



3. Have students take two pieces of computer paper to feed through the center cut of the poster board.
4. Take one piece of computer paper to feed through the left cut and the second to feed through the right cut. Tape the computer paper pieces to themselves to create loops.
5. Final product should look like this:



Images Adapted from:

Matzger, Ellen P. (2000) *A Model of Sea-Floor Spreading Teacher's Guide*. The Museum of Paleontology of the University of California, Berkeley. https://ucmp.berkeley.edu/fosrec/Metzger3.html

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Divergent Boundary Activity Worksheet

Pull the pieces of paper from the middle of the poster board:

1. Explain, in detail, the movement of the papers as you pull them from the middle:

2. Does the middle cut represent a divergent or a convergent boundary? Explain your reasoning.

3. If the paper is being pulled into the right and left cuts, what kind of boundary might this represent?

4. What do the looped papers represent when they are on top of the poster board? Below the poster board?

5. What geological process would you use to describe what is happening at the right and left cuts? Why?

6. The Earth is about 4.6 billion years old and yet the oldest ocean floor found is only about 200 million years old. Use your model to give an explanation for this.

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Where in the World are Divergent Plate Boundaries? **Name:** _____

Use your Tectonic Plates Map at the following stations to help you answer the questions. Be sure to read over the map's legend before beginning. Follow the steps and answer the questions in detail. You will have 6 minutes at each station, and you will hear a bell when time is up. Move on to the next station quickly and quietly.

Station 1/3 **A Country Ripped Apart**

1. Observe the boundary between 55°N and 65°N in the Atlantic Ocean. What type of boundary is it according to the map?

2. What landmass does this boundary go directly through? (You may need to google a world map.)

3. Go to the following website: https://www.nationalgeographic.org/media/plate-tectonics/#alien-deep-tectonic-plates
4. Watch the video (stop at 3:20) and observe Bob Ballard discuss the plate boundary. Answer the following questions:
    a. What phenomenon pushed Iceland above sea level?

    b. What feature of this boundary was shown in the video?

Station 2/3 **Underwater Exploration**

1. Observe the boundary between the Nazca Plate and the Pacific Plate as well as the Antarctica Plate and the Pacific Plate. According to the map, what type of boundaries are these?

2. What evidence can you use from the map to support this claim?

3. What type of feature would you expect to see at these boundaries? Why?

4. Go to the following website: https://pubs.usgs.gov/gip/dynamic/topomap.html
    a. What do the warm colors represent on the map? The cool colors?

    b. What is this image a small part of? This image depicts the boundary in question 1.

    c. What feature of the boundary does this image show?

Station 3/3 **Parting of the Sea**

1. Observe the divergent boundary between the Arabia Plate and Nubia Plate. Find a world map; which body of water does this boundary cross?

2. What evidence is there that the landmasses on the Arabia Plate were once connected to the landmasses of the Nubia Plate?

3. The parting of the Red Sea shows that divergent boundaries can create new oceans. If you started with a continental divergent boundary, explain how you would end up with an ocean in its place.