Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_

**LAB: 2-D CONTOUR MAP to 3-D MODEL DATA REPORT**

**Background/Overview**: Students will explore the concept of topographic maps and contours by creating a 3-D model from a topographic map.

**Objectives:** Students will:

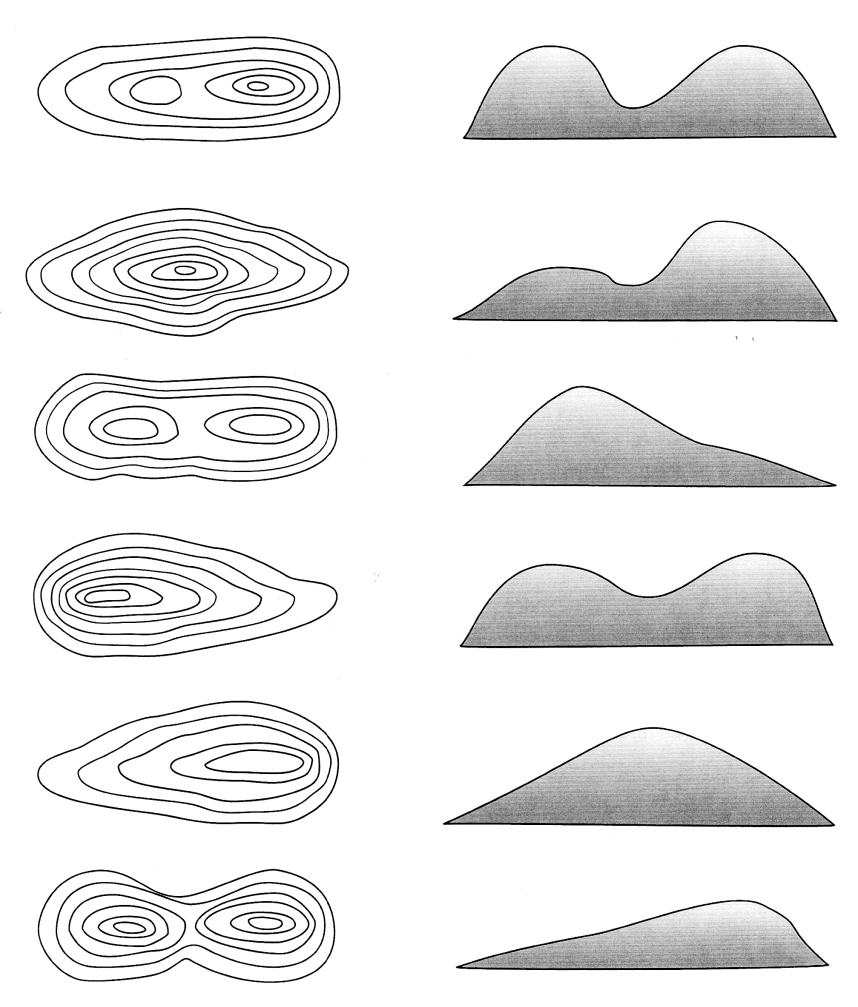
1. Determine the elevation of contour lines when given an index contour and the contour interval.
2. Create a 3-D model of the area represented by a 2-D Topographical Map.
3. Understand how 2-D maps show 3-D elevation changes on Earth’s surface.

**Prelab Questions:**

1. Define the following words:
   1. Contour line:
   2. Contour interval:
   3. Index contour:
   4. Depression contour:
2. Tape a small copy of the map your group was given in the space below.
3. Mark the elevation of each contour line on the map above using the following information:
   1. The outside contour line is at 120m above sea level. Mark the outermost line as 120m
   2. The contour interval is 20m. Determine the elevation of all remaining lines and mark them.
4. Based on your map:
   1. Mark a “F” on your map where the land is the most FLAT (or most gently sloped)
   2. Mark a “S” on your map where it is the STEEPEST.
   3. In the space below, explain how you know where it is flat AND where it is steep.

**Day 2 – Post Lab Questions**

1. **The teacher will show two 3-D models from different classes of the same map**.
   1. How are the 3-D models similar?
   2. How are they different?
   3. What errors might cause the differences?
   4. What did the play-dough squares (or beads) between the contour layers represent?
2. How might topographic maps be used? (Think of who might use them and when. Knowing elevation changes might help prepare for what type of activities? List at least 2 activities.)
3. When could you use information about contour lines or maps in your own life?



**QUIZ TIME!!**

1. Match the topographic maps at the right with its corresponding hill silhouette by **drawing a LINE between the pairs**.

\*\*\*BE CAREFUL!! Some hills are very similar! Ask me to check your answers when done.

1. How does YOUR model compare to its silhouette at the right? List BOTH similarities & differences:
2. Examine the rest of the class models. Which 3-D model seems to differ most from its hill silhouette at the right? What appears to account for the different appearance?

**Write a Conclusion PARAGRAPH** on a separate piece of paper and staple to this report:

**\*\*\* NOTE: Use complete sentences, proper grammar and spelling. Need SEVERAL sentences.**

1. Restate the purpose. (Feel free to summarize and put the objectives into your own words.)
2. Were the objectives met? Explain how they were or were not met in this lab.
3. Relate this lab to what we are covering in class or what we will be covering.
4. Did your 3-D model turn out like you’d expected based on the topographic map you were given? Were the flattest & steepest parts where you thought they would be? EXPLAIN. (Explain whether the model matches what you’d expected or not.)
5. What could be one source of error in this lab? How could it affect your results?