Name_____Date_____Period_____

Constructing a Contour Map Lab

Introduction:

In this lab you will learn how a three-dimensional model can be represented by a two-dimensional map. By creating contour lines from field values you will be able to show the topography of a volcano on a map. Contour lines are used to show elevation and topography.

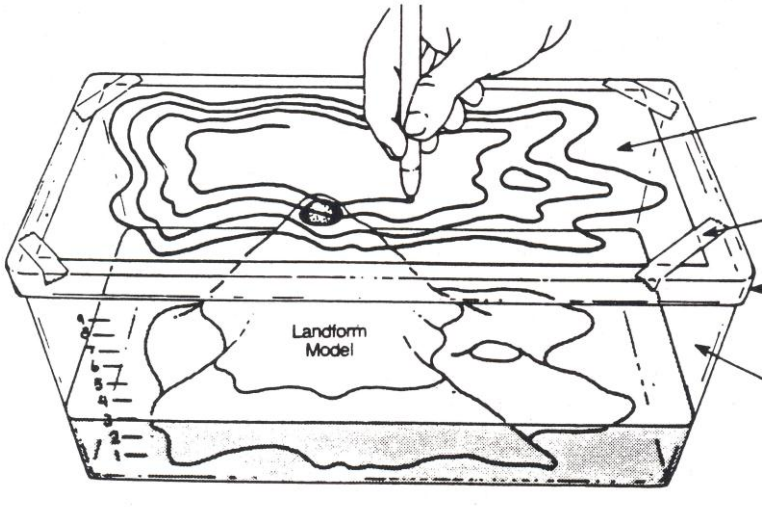
Purpose: The purpose of this lab is to learn how to create a topographic map and the features associated with them.

Material: plastic tray, volcano model, transparency

Procedure:

Procedure A: Constructing a Contour Map

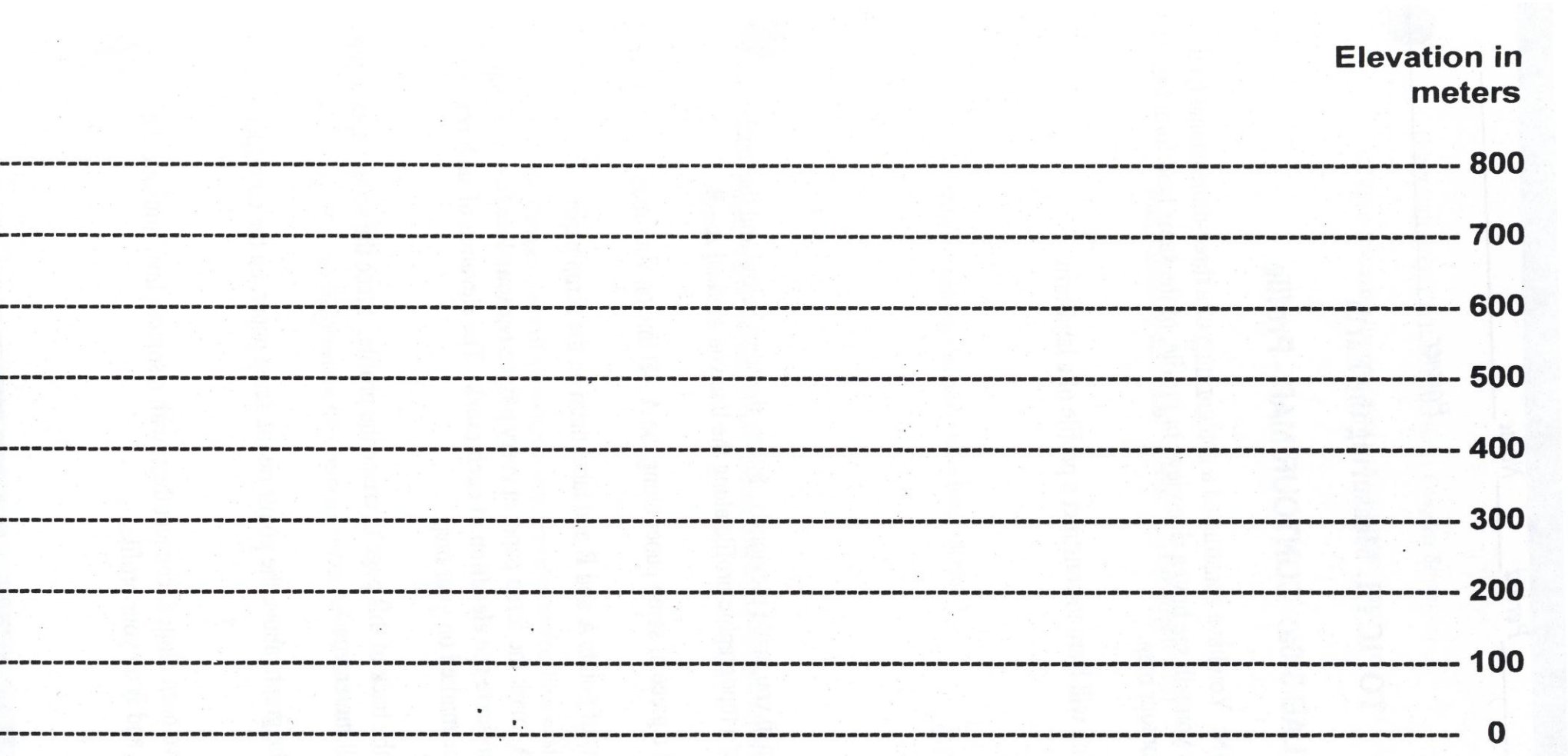
1. Using a 1 cm contour interval (1 cm = 100 meters), fill the water up to the 1 centimeter level. Label this contour line 100,meters
2. Replace the lid. Looking straight down on the volcano, trace the shoreline onto the plastic lid.
3. Remove the lid and fill the box with water to the 2 cm level.
4. Replace the lid and trace the new shoreline onto the transparency. Label the second contour line 200meters.
5. Repeat the procedure of filling the box and tracing the shoreline until you get to the 8 cm level has been reached. Remember, to use hash marks for a depression or crater. Also, there are two river rivers on your volcano; so, make sure you draw your " V 's ".
6. Each person must trace the contour map onto a blank sheet of paper.
7. Carefully pour the water out of the box.



Procedure B: Creating a Profile

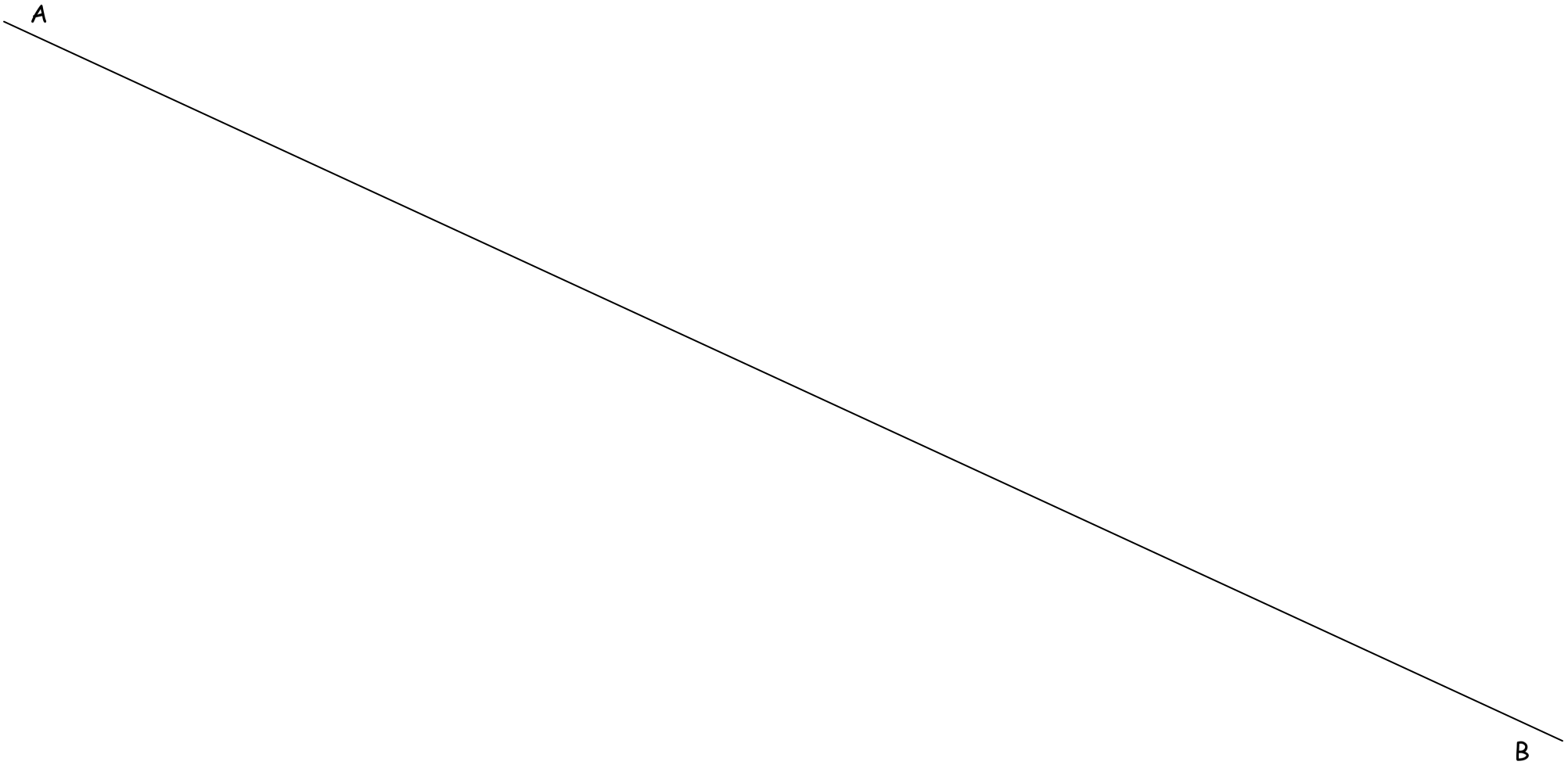
1. Line up the edge of a scrap piece of paper with the A-B line drawn on your map.
2. Mark the positions of Point A and B and label them on the scrap paper.
3. Starting at Point A, mark the scrap paper at every point where a contour line touches the edge of the scrap paper. Label the elevation of every tic mark.
4. Use the graph in the Results Section to create the profile. Place the scrap paper along the graph below the 0 m line. Mark and label Point A and B.
5. Mark the graph paper so that the marks from the scrap paper are on the line equal to its elevation.
6. Connect all the points with a smooth line.

Results:



Procedure B: Graph for Profile

Procedure A: Results: Draw your volcano topographic map here: (make sure you label each contour line, use **v's** for rivers and **hachure's** for depressions)



Conclusion Questions:

1. What was the purpose of this lab?

2. What materials did we use?

3. What are contour lines and what do contour lines represent on a topographic map?

4. What is a contour interval? What contour interval did you use for this lab?

5. What are volcano and hills represented by on a contour map?????

6. Referring to your map, how do the contour lines indicate a region with a gentle slope?

7. Referring to your map, how do the contour lines indicate a region with a steep slope?

8. In what direction do contour lines bend when they cross a river valley?

9. How would you indicate that there is a crater on the top of the volcano?