

**Objectives:** *The successful student will be able to:*

- Explain what a topographical map is and how it can be used to study land forms.
- Use map scales to determine distance.
- Use contours to determine elevation, relief, and slope of the land.
- Construct a topographical profile.
- Determine latitude and longitude of a place from a topographic map.

**Materials:**

ruler, topographic map, United States wall map, World wall map

**Instructions:**

**Topographical Maps**

Topography means "the shape of the land." Each topographic map shows, to scale, the width, length, and variable height of the land above a datum or reference plane - generally average sea level. Their primary value to the earth scientist is for determining locations, land form types, elevations, and other physical data.

Topographic maps have been produced by the United States Geological Survey since the late 1800s. Obtain a sample topographical map from the instructor. Answer the following questions about the map.

1. What is the name of the highest mountain? \_\_\_\_\_
2. What is the highest elevation on the map? \_\_\_\_\_ feet
3. Which mountain has the steepest slope? \_\_\_\_\_
4. How far is Blue Lake from Norton? \_\_\_\_\_
5. How long is the railroad tunnel? \_\_\_\_\_
6. How far is Rockville from Norton by highway? (use a piece of string to follow the highway)
7. Where do you think the sunniest slope is located? Explain your answer.
8. New York City is located at approximately 43°N, 74°W. About how far is Dixon from New York City?
9. If rain fell at Rockville, which stream would the water eventually enter? Why?
10. Using a pencil lightly draw an X on your map. The X should have one line that begins in the NW corner and goes to the SE corner of the map. The other line should go from SW to NE. Construct two profiles on graph paper along the two lines of the X. Use your graph to answer the following questions:
  - a. Do the profiles look alike? Why or why not?
  - b. Along which route would a person walking along a line of the X receive more exercise? Why?

### **Relief Maps**

Examine the maps of the World and the United States that are posted in the classroom:

1. What scale is used on the World Map?
2. What scale is used on the map of the United States?
3. What is the distance in miles between Chicago and Paris?  
*(show your calculation)*
4. What is the distance in miles between Chicago and Los Angeles? *(show your calculation)*
5. On the map of the United States, which part of the country has the highest mountains?
6. On the World Map find three mountain ranges and list their names: