

Topographic Mapping

Objective: Each student will create a three dimensional model of a two dimensional topographic map.

Purpose: Students will better understand the two dimensional significance of a topographical map by creating a three dimensional model.

Time: ~1 hour? Depends on the difficulty of your topo map.

Materials: Card board, scissors, glue and topographic maps. You can use your own if you have some (check out your local library for extras)

Here is a website by the USGS that has lesson plan ideas and maps

http://interactive2.usgs.gov/learningweb/teachers/mapsshow_download.htm#poster

Here is another website that will give you a topographic map of any region in the U.S. (but these maps aren't the greatest) <http://terraserver.microsoft.com/>

Procedure:

1. Most students are somewhat familiar with topographical maps; they may not understand what they are, but they have probably seen one sometime in their life. As an introduction you could ask the students to describe what the map tells us about the geological layout of an area, what the lines mean, what it means to have lines far apart or close together, etc.
2. Give each student (or group of students) a topographic map. Have the students use the map as a stencil to trace each contour line on a different piece of cardboard. Cut out each piece and create a three dimensional representation of the map. You may want to discuss why having a topographic map is better than having a three dimensional map.
3. Another idea is to have the students calculate the slopes of the terrain at different areas of the map. If they were planning a hiking trip in a mountainous region, what would be the best path to get from point A to point B?