



Overview

In this 50-minute activity, students will learn how topographic maps show Earth's features.

Materials

- Paper
- Interlocking blocks of different sizes and shapes
- Topographic map of a mountain

Lesson Preparation (5 minutes)

Gather at least one topographic map of a mountain for students to examine.

Use interlocking blocks to build a "mountain." The mountain should fit on a sheet of paper. Lay out blocks of the same thickness to be the bottom layer. At this point, the blocks will not be connected to one another. Add a second layer using blocks of uniform thickness. The second layer should be smaller than the first layer, but should extend far enough to interlock all of the base pieces to the second layer. Continue until you have four or five layers.

Lesson (40 minutes)

Introduction

Elicit students' prior knowledge by asking, *What are some uses of maps?* Most students will be familiar with road maps. Point out that road maps are useful for navigation between locations, but are not so useful for learning about patterns of Earth's features. Explain that there are two main types of maps used to learn about Earth's surface: physical maps and topographic maps. Physical maps often use shading or differing colors to show different elevations, or heights. Explain that topographic maps show elevation using a series of lines called contour lines.

Procedure

Part I

- Show a topographic map and tell students that contour lines connect points of the same elevation.
- Ask students to identify what a steep slope looks like on a topographic map (contour lines are close together). Have them identify other pattern they see on the map.
- Explain that, as a class, they will make a topographic map.

Part II

- Display the building block mountain that you prepared before class. Ask, *Could we make a topographic map to model this mountain?*
- Set your building block mountain on a sheet of paper. Trace around the base level. Hold up the paper and show students. Say, *This contour line shows the lowest elevation of the mountain.* Remove the blocks that represent the case layer. Set the remaining layers on the paper inside the first contour line. Trace the second layer and display your results. Again, remove the layer, place the remaining layers on the paper and trace. Continue until you have drawn the contour line for the peak.

Conclusion

Point out that analysing maps allows people to learn about Earth's features.

Assessment (5 minutes)

Call on several students to compare and contrast the topographic maps they made with the actual topographic map you displayed for students. Use students' responses to gauge their understanding of how information about Earth's features is represented on topographic maps.