

Standards-Based Lesson Planning Springfield Schools

Standard(s): Science and Technology/Engineering

Strand #1: Earth and Space Science

Learning Standard #1: Recognize, interpret, and be able to create models of the earth's common physical features in various mapping representations, including contour maps.

Desired Results

Scope and Sequence

Topic: Porter Lake Challenge: Mapping the Earth

Suggested Time Frame: Two day environmental education experience at **ECOS (Environmental Center for Our Schools)** in Forest Park, Springfield, MA

Essential Questions

- How are hills represented on a two dimensional map?
- How do you read a compass?
- Can you interpret a map and identify your location on a map?

Content and Skills (Progress Indicators)

- Interpret a topographic map identifying landforms and elevation.
- Read a contour map.
- Read a compass.

Assessment Evidence

- On day one, students will show they understand how to interpret a topographic map, use a compass and be able to navigate using both a topographic map and a compass, by responding to teacher directed questions and participating in navigating activities.
- On day two, while in cooperative learning groups, students will be asked to lead a portion of the hike. Is the group making appropriate decisions? Are they interpreting/ holding the map correctly? Are they reading the compass correctly? Are they making sound decisions for the group by not trying to forge through dangerous terrain?

Learning Activities

On day one, students will:

- use different size lids/ foam, to create and illustrate a mock hill.
- play assorted games to reinforce reading contour lines.
- use a compass to create a triangle given a set of bearings.
- use a compass to identify an object at a given bearing number.
- use a map and compass to find destinations throughout the park.

On day two, while in cooperative learning groups, the students will circumnavigate Porter Lake using the map and compass.