

Forest Activity: Land Survey

Describe Your Schoolyard

Illinois State Web Module used: Forest module section on explorers ♦ surveys and journals.

http://www.museum.state.il.us/muslink/forest/htmls/re_reset.html

Purpose: to help students understand the importance and mechanics of making a land survey grid by measuring, marking, and note taking.

Objective: students will be able to draw an approximate map of the land they surveyed after measuring the land of their school yard with given materials and making notes of landmarks and measurements.

Grade Levels: elementary and junior high

Time Required: one-hour period or two shorter ones (perhaps in coordination with math teacher)

Materials for each group of three students:

A rope 12 feet long

Duct tape

Markers for corners of grid: bricks, milk cartons filled with sand, stones, etc.

Notebook

Pencil

Graph paper

Optional colored pencils

Motivation: Class discussion of Web page on land surveys and other materials on the subject.

Topics include careers, skills involved, importance for land purchasers, hardships of the job, tools used, and comparisons to today.

Procedure: Choose ahead of time what the students will be surveying; size of whole grid; how

many sections will be needed (how many groups of three). Each group's grid will be 12 feet by 12 feet. Grid sections will be contiguous.

24 by 48 grid

8 sections

Preparing students: Cut a piece of duct tape to wrap around the rope at 12-foot intervals. These will allow them to pinpoint where objects are on the ground on their grid lines.

Two students of each group will be measuring their grid by laying out the rope, placing corner markers, and counting feet to mark objects. The third member will take notes on what objects are found and where they are. Students should be encouraged to make sketch maps showing the locations of objects.

When each grid is measured, and notes are taken to everyone's satisfaction, return to class.

Use graph paper to draw a map of the measured grid. Using the scale that one square on the graph equals one foot (or other scale decided upon). A large map could be made by putting all the groups' maps together (drawn at the same scale).

Upon completion of the map, the students will discuss it, perhaps answering these questions, among others: (can be used as an assessment of the activity, orally or on paper)

Can you summarize your experience?

How accurate is your map? Why?

How do you make a survey map more accurate?

How did you mark where objects were that did not occur right on their grid lines?

Did you find any landmarks, permanent markers, bearing trees?

Why might people today want a survey of some land?

Who could use the survey of the playground (whatever was surveyed)?

What skills and knowledge are necessary to be a surveyor?

What additional skills would hilly terrain require? What might be the problems associated

with surveying hilly land?

Illinois State Board of Education Goals and Standards addressed:

Mathematics Goal 7: Estimate, make, and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

Social Studies: History Goal 17A and B: Describe and explain places. Explain how people use markers and boundaries to analyze the Earth. Make and use geographical representations (maps, charts).