

Activity name: Let's Peek Under the Sod

This activity is meant to provide a real-world application of the ATEEC Recommended Core Curriculum's math, science, technical, communications, or critical thinking knowledge and skill concepts, which have been identified by the ATEEC Fellows as necessary preparation for environmental technology occupations.

Appropriate for which course(s)?): High school and community college sciences

Concept/skill learned (i.e. from K/S Tables): Perform typical laboratory procedures, measure meteorological factors, locate positions on map, evaluate groundwater features, use survey data and technique.

SCANS skills addressed:: Acquire and evaluate information, participate as a member of a team.

Cognitive Level: Analysis and Synthesis.

Learning objectives - Students will be able to:

- Evaluate difficulties that can occur in attempting to separate various materials.

Approximate time to complete activity: 3 class meetings

Source of idea or activity (for published source, please include author, title, publisher, date): : Department of Natural Resources, BSCS Publications

Materials/resources needed (equipment, print media, electronic media, videos, supplies, etc.):

- Thermometer
- Coffee cans or piece of PVC pipe
- Gallon jugs of water brought to site
- Level
- Meter (or yard) stick
- 12" x 8" grid paper
- Pencils
- Clipboard

Description of Activity:

Site analysis:

1. Collect soil samples from school, neighborhood, and other city areas. Place in plastic bags and label. (See item 1 of "Let's Talk Dirt!" activity.)
2. At each location run the following test (known as a perk test): Use a cylindrical object such as a coffee can with both ends removed or a piece of PVC pipe. Pound into ground, leaving half of the height exposed. Pour 1 gallon of water into the can/pipe, remembering to keep liquid in pipe at all times until the gallon is used up. Time the interval from when you start to pour until the last amount of water is absorbed into ground. Perform test at each site. Record data.
3. Determine soil temperature by making a hole with a pencil in the soil and immediately placing a thermometer into the hole. Wait 2 to 3 minutes and read.
4. Collect wind velocity and directional data. Have students design a manometer to record direction of wind. Get velocity data from weather service or manometer.
5. Measure the angle and direction of the slope at that location. Use a level and meter stick and refer to Figure 1 below, to determine the slope in the mapping area.
6. Measure the percent canopy cover for the site as described for Figure 2 below.
7. Identify the use for the land at this site.

Figure 1

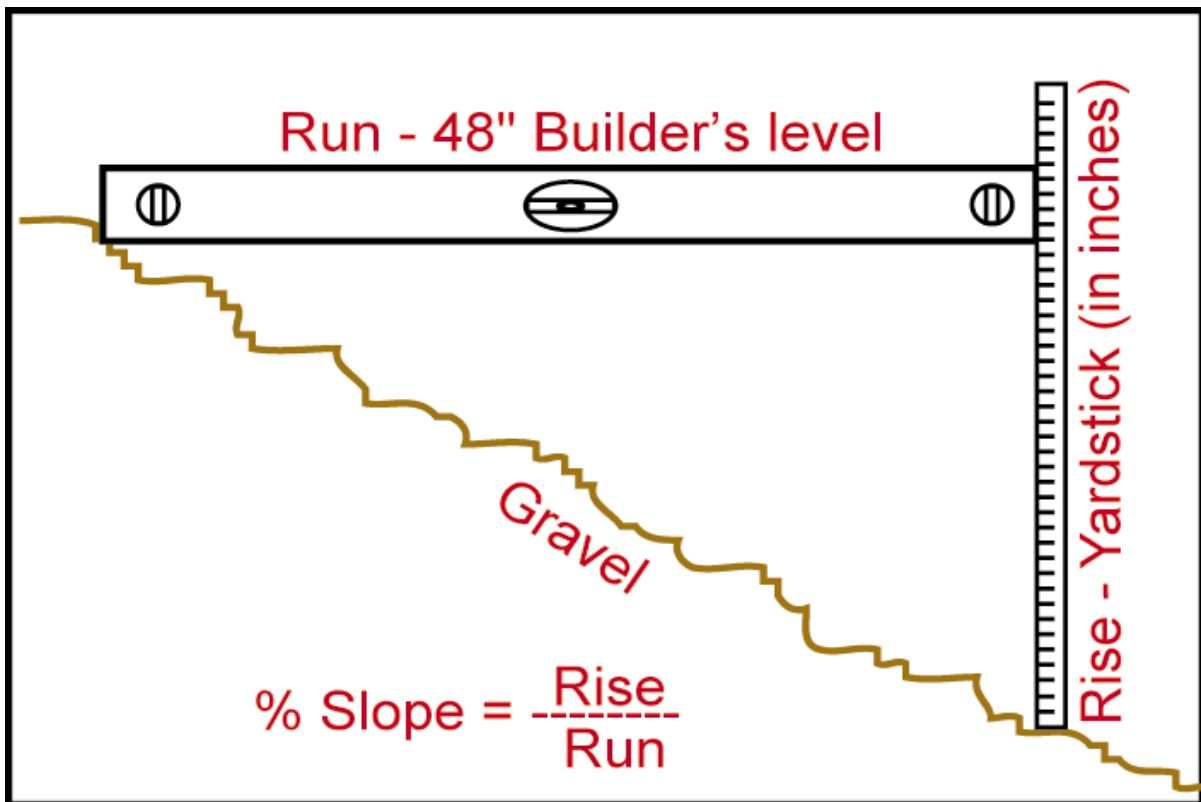
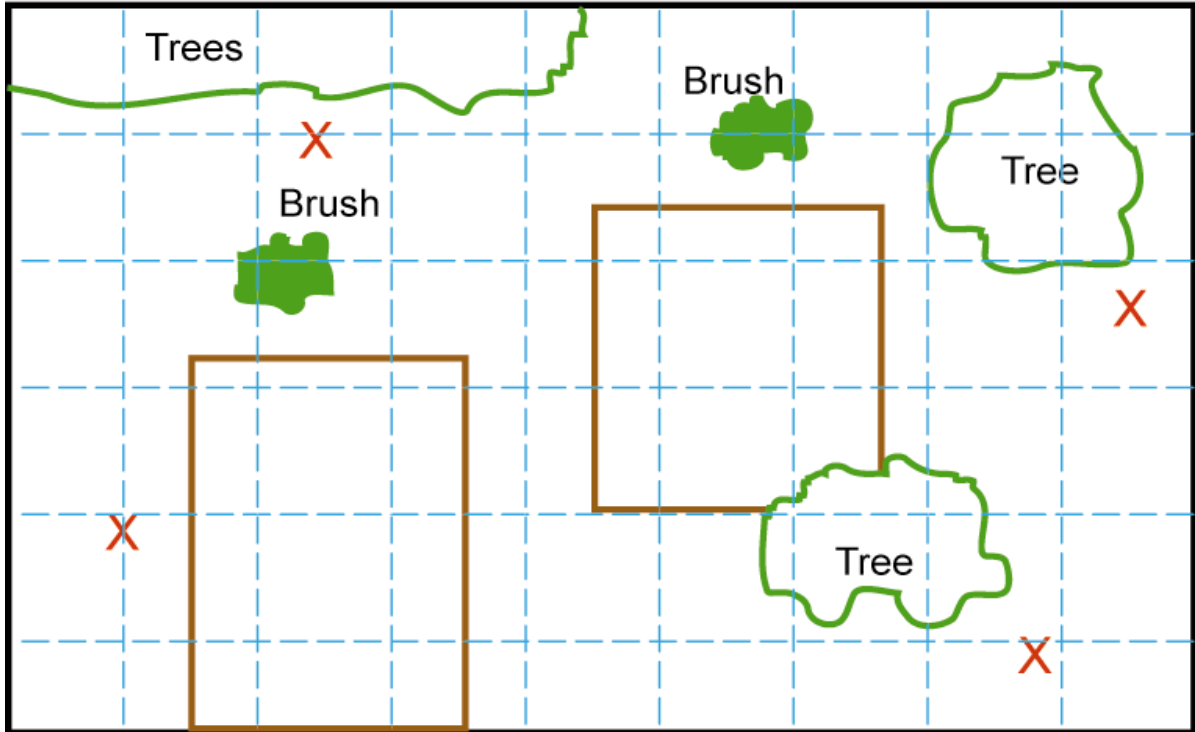


Figure 2 Note: To measure the percent of canopy cover: draw area on grid paper. Map the trees and the canopy (shade) as projected on the ground (at or near noon). Determine the area covered by canopy, then divide by total area. This figure is the percent of canopy cover.

Example of site plan

X = test sites



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