

Activity name: Where Does All the Water Go?

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 identified by ATEEC Fellows as necessary preparation for environmental technology occupations.

Appropriate for which course(s)? Technology Studies, Earth Science or other high school science course

Concept/skill learned (i.e. from K/S Tables): Using topographic maps and surveying equipment

Approximate time to complete activity: 1 hour or more

Source of idea or activity (for published source, please include author, title, publisher, date): Brainstorming session with other technology and science teachers at school

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

- topographic map of the area surrounding your school, or other appropriate maps that show topography of the area
- tracing papers
- surveying equipment (optional depending on desired outcome of lesson)
- graph or chart paper (optional depending on desired outcome of lesson)

Description of activity:

The purpose of this activity is to have students determine where the water run-off from the school actually ends up. This activity obviously works better in areas with open drainage ditches to the final destination of the water (river, bay, lake, etc.). The students will spread out the map of the area and locate the school. Using the elevation contour lines they can follow the route of the water from the source (school) to its final destination. Depending on where your school is located in relationship to the nearest major body of water, this can be a lengthy project. The students will carefully lay tracing paper over the map and trace the route.

Extension activities could include:

- take all the final tracings and lay them on top of each other to see if everybody agrees where the water goes
- work with a math teacher or drafting teacher to develop a contour cross section map to determine how fast the water drops in elevation

- use surveying equipment to follow the drop of water in elevation
- don't use topographic maps at all, just have the students use surveying equipment to determine the elevation from the school to the final destination (this can be a real challenge in some areas)
- if it is close enough to walk the route of the drainage, have students follow the water and make observations about the the speed of the water flow and other data
- measure the area of your school's roof, determine the annual rainfall for your area, and calculate the total water run-off from your school in one year (don't forget the parking lots also)
- perform a soil analysis on the soil in the drainage ditch to possibly determine if the school is adding to stream pollutants
- good creative writing/geography lesson: have the student pretend to be drop rain water from your roof that flows all the way to the ocean and describe what they would see along the way

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