1333618 REV 002

New ideas for teaching science

Assessment

Assess students on their knowledge of what groundwater is, how it moves through the soil, recharges and is used in the home, industry and agriculture.

Ask students to explain the water cycle's connection to groundwater.

Assess students on their math skills by asking them to relate percent to ppm, ppb and ppt.

Assess students on their speaking and presentation skills during mock town meeting discussions related to groundwater issues.

Cross-Curricular Integration

Mathematics

Have students apply their math skills to determine the percent porosity and permeability of various soils and relate ppm measurements to ppb and ppt.

Chemistry

The chemical structure of water can be covered along with terms such as solute, solvent, concentration and serial dilutions.

Environmental science

Various other related environmental issues can be woven in with groundwater concepts - such as solid waste management and landfills, air pollution.

Earth science

Discuss the various earth layers that make up the earth's crust and how they relate and aid in the distribution, movement and filtration of groundwater.

Health

Discuss with your students the various potential health risks associated with contaminated groundwater.

Economics

Discuss with your students the economic implications that groundwater contamination has in terms of costs involved to remediate a site as well as the adverse effects it has on property values, economic development and the overall quality of life for nearby residents.

Debating social issues

Have students hold a mock town meeting to debate and present issues related to a contaminated groundwater site. Each student can act on the behalf of a parent whose children attend a nearby school, an engineer representing the town, a waste site remediation specialist, a president of a company which caused the contamination and residents near the site. Have students identify potential health concerns, ways to remediate the site, costs, ways to prevent any future groundwater contamination and any long-term economic implications due to a contaminated site.