



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2000 Volume VI: The Chemistry of Photosynthesis

Purification v. Population: Green v. Grey The Plant Kingdom's Impact on Air Quality

Guide for Curriculum Unit 00.06.04
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Is there new development in your area? If so, will this development contribute to pollution? Are plants the solution? This unit addresses a central question: Can plants erode or minimize the air pollution associated with urban expansion and development?

"Purification v. Population: Green v. Gray" is an integrated science curriculum unit written for grades 6 through 9. The unit is inquiry-based and emphasizes data capture, analysis and validation. This unit is prepared for my eighth grade Integrated/Earth Science class. The unit is written for a group with average skills, although parts of the unit, particularly a CAPT-like laboratory investigation and a court presentation will be received best by more advanced students.

This 12-week unit is divided into three major sections. The first section involves description, analysis and impact of air pollution. The second section involves investigations of the biology and chemistry of plants. Students observe plant processes through experiments and demonstrations. The final piece requires research of a current development proposal-in our investigation-development of the Long Wharf Mall. This section includes substantial research and data analysis. The culminating unit activity will be presented as a court case.

"Purification v. Population: Green v. Gray" addresses National Science Standards and Benchmarks. Furthermore, it embraces the integrated approach to Science and includes many components of the City of New Haven's Science Standards in grades 7 through 9. Finally, the unit aligns itself with mathematics standards in grades 6 through 9; problem solving is a critical skill employed throughout the unit.

(Recommended for Earth Science, grade 8.)

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