



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1986 Volume VI: Fossil Fuels: Occurrence; Production; Use; Impacts on Air Quality

Motivational Techniques and Materials for Teaching High School Science in the City of New Haven

Guide for Curriculum Unit 86.06.06
by Roche A. Samy

The unit I have developed is meant to teach ninth and tenth graders, with a “Show and Tell” technique. This includes experiments, demonstrations and project activities. These subjects can be covered in life science, physical science, chemistry and general science courses .

The topics covered in this unit are: 1) Model of the Human Lung—experiment; 2) Tidal Volume of Human Lungs—experiment; 3) Effects of air pollution on human body—illustration; 4) Sources and properties of air pollutants—discussion; 5) Relative Humidity—experiment; 6) Wind speed and direction—experiment; 7) Particulates in the air-soot production—experiment; 8) Observation of pollutants in the air; 9) The Greenhouse Effect—experiment; 10) Acid Rain—experiment; 11) Polychlorinatedbiphenyls (PCB)—discussion; 12) Radioactivity a) effects on biological organisms, b) radioactive pollution from commercial power plants—discussion, c) radioactive pollution from nuclear weapons production—discussion, d) radioactive pollution from nuclear warfare—discussion, e) DIGI-CHECK experiment on radiation thermography.

The illustrations and experiments are found in the appendices at the end of the unit.

(Recommended for Life Science classes, grades 9 and 10; Physical Science classes, grades 9 and 10; and Earth Science classes, grades 9 and 10)

Key Words

Pollution Air Ecology Environmental Science Energy Fossil Fuels Combustion Geology Natural Resources

<https://teachersinstitute.yale.edu>

©2019 by the Yale-New Haven Teachers Institute, Yale University

For terms of use visit <https://teachersinstitute.yale.edu/terms>