



The Atmosphere and the Environment: Four Environmental Problems

Guide for Curriculum Unit 93.05.02

by Lisa Alter

In this curriculum unit, I will be discussing three environmental problems, all relating to our atmosphere and the air we breathe. Although this unit can be taught at any time during the school year to 8th grade science students, it is particularly appropriate right after the required curriculum unit on the atmosphere. It also ties in some of the CEPUP activities.

The unit will use a variety of teaching techniques and emphasis is placed on hands-on experiences. How Connecticut and New Haven are affected by these problems (ozone, acid rain and global warming) will be emphasized. Also, the realities and myths of each problem will be discussed. Furthermore, an appendix of data supporting each problem will be included. This enables the unit to be adaptable to different student abilities, and also provides practice in a critical area of science and math: interpretation of data.

In 1985, a hole in the ozone layer, the size of the continental United States, was discovered over Antarctica. Ozone in the stratosphere blocks out harmful ultraviolet rays from the sun and, if such protection did not exist, there could not be life on earth as we know it. As a matter of fact, until the atmosphere could build up the ozone layer around the earth, life did not exist. On the other hand, ozone in the troposphere is Connecticut's number one air pollution problem.

Acid rain is another atmospheric problem and some of the same pollutants that are involved with the ozone problem, also affect acid rain. During this part of the curriculum, the CEPUP kit on pollution will come into play. Lastly, we will study global warming, an environmental problem with a lot of media play and much speculation. Is the warming of the earth just part of the natural scheme of things, or are we really in danger due to the increase of pollutants into our air such as carbon dioxide, methane, CFC's, etc.? Should we wait to find out?

(Recommended for Earth Science, and General Science, Grade 8)

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