

EDGAR MIDDLE SCHOOL
Pupil Performance Objectives
2009-2010

Energy Conservation

Goal: By June, 2010, 90 % of students in fifth grade will be able to identify two or more ways to reduce the amount of energy used in their school.

Rationale: During the 2008-2009 school year, the Edgar School community participated in a Go Green! initiative aimed at introducing and encouraging the concepts of Reduce, Reuse and Recycle. In order to further students' understanding of how they may be stewards of their environment, this year's goal aims to raise awareness of energy use and conservation. To further this aim, the Metuchen Public Schools is participating in the Green Schools program of energy study and conservation. School wide activities will be targeted at raising awareness and enthusiasm for energy conservation. Learning activities will be conducted at all grade levels, with a specific assessment target for the fifth grade.

Implementation:

An Energy Conservation Committee will be formed to develop a school wide program. Suggested activities may include assemblies, contests, announcements or other programs. The committee will seek input from the Edgar School community in developing a program.

Grade 5: In collaboration with the fifth grade Science Lab teachers, fifth grade teachers will select and conduct lab activities targeted at developing students' understandings of energy usage, waste and conservation, particularly as it pertains to their lives and their school environment. Labs and activities may be conducted during the science lab period and during classroom lab periods. Lab activities and equipment may be selected from the Green Schools program, or from other suitable sources.

Suggested Energy Conservation Unit Schedule:

Lesson 1:

- Pretest
- Definitions: Conservation – what it is and how it pertains to their lives

Lessons 2, 3, 4 ...

- Suggested Lab Activities
 - o Keeping Warm – Insulating our bodies in cold weather
 - o In the Pink – Home insulation keeps heat in and cold out
 - o Bright Heat – Unwanted energy from incandescent light
 - o How Energy Efficient Are You? Web activity to gauge energy usage in the home
 - o The Mummy's Tomb – building a better pyramid

- Your Carbon Diet
- Energy Audits – School and Home
- Tools to Measure Energy Usage / Waste – Light meters, temperature probes, air flow detectors and watt meters

Final Week:

- Post-test
- Additional ways to conserve energy and reduce the carbon footprint in School and at home

Grades 6, 7, & 8

A kit provided by the Green Schools program contains various meters for measuring energy. It will be shared by the Science Teachers to use with their classes to:

- Raise awareness of the need to conserve energy.
- Demonstrate methods to measure the amount of energy being used/wasted.
- Devise means to reduce the amount of energy being consumed.

Suggested kit use schedule:

- 1st cycle: 8th grade
- 2nd cycle: 5th grade
- 3rd cycle: 6th grade
- 4th cycle: 7th grade

Assessment:

A formal assessment survey will be developed and administered to fifth grade students in June. The survey will provide an opportunity for students to demonstrate that they can identify two or more ways to reduce the amount of energy used in their school.