



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2004 Volume IV: Energy, Engines, and the Environment

Simple Machines, Engines and the Environment

Guide for Curriculum Unit 04.04.03
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The focus of this unit is on small group instruction and contains a variety of resources where a student can research background information for his/her topic. This background material will provide the student an opportunity to look at his/her project in a variety of ways and help them decide on the focus of their project.

In most cases, the student involvement with physical science has been very limited. This lack of background is a reason why we will rely on computer-animated programs and aim to find a mentor qualified to help them in their area of interest.

This unit begins by talking about and understanding what work means to the science community. The next step is to introduce and/or review the 6 simple machines:

- The Lever
- The Inclined Plane
- The Pulley
- The Wedge
- The Screw
- The Wheel and Axle

This is an important step as simple machines are basic to all machines.

The next section deals with internal (car) and external (steam) combustion engines. The basic operating procedures are investigated in detail through websites.

The unit ends by discussing the environmental impact of automobiles and how the world is trying to alleviate some of these problems.

(Recommended for Science and Physical Science, grades 5-8.)

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