

Renewable Energy Education

A Teachers Activity Resource Guide to:

Wind Energy



You can teach wind energy science in your classroom. MTC can help!

Wind technology harnesses the kinetic energy of flowing air and then transforms the mechanical energy of spinning blades into pollution-free electricity. Advances in turbine technology have made this process even more efficient, making wind energy a cost-competitive option for a growing number of applications. Air pressure in the atmosphere will always fluctuate and create varying amounts of wind around the world. This constant source of wind, in addition to the fact that no fossil fuels are burned when electricity is generated using wind, means that wind power is a clean and renewable source of energy.

The Ashland Middle School has created a comprehensive wind power curriculum that you could incorporate into your classroom to make learning about wind energy fun and accessible for you and your students. This program was supported by funding from the Massachusetts Technology Collaborative and the Renewable Energy Trust.

The first portion of the course uses cognitive learning tools to study principles of simple machines, magnetism, electricity, and alternative energy resources. Later, students apply these concepts to hands-on projects that require them to work in teams to determine the feasibility of utilizing wind energy resources at a specific location. The teams will then plan and construct wind turbine models.

The Ashland Middle School resource guide includes course outlines, day by day curriculum lesson plans, and activity sheets. This curriculum was developed by an eighth-grade teacher and was designed for an Applied Science and Technology course.

The Ashland Middle School Wind Power Curriculum highlights the following curriculum strands:

For Grades 6-10 Science and Technology:

- Earth and Space Sciences
- Physical Sciences
- Technology/Engineering

Free Online:

Ashland Middle School's Curriculum
Recreate these activities and much more in your classroom

Links from the Massachusetts Technology Collaborative:

Explore all of the resources we have compiled from MTC's K-12 Education page at www.masstech.org/renewableenergy/k-12/k12.htm

Read a brief overview of Ashland's program and download the curriculum at: www.masstech.org/cleanenergy/curriculum/writeups/ashlandms.htm