



**SUSTAINABLE TEACHING CURRICULUM
LESSON PLAN**

Wind Power

Primary Subjects- Science

Objectives:

- The students will learn how wind turbines work to supply energy.

Materials:

- Box of non-mechanical, unused pencils with erasers
- paper
- markers or something to decorate with
- pushpins

Introduction to Lesson/ Anticipatory Set:

- “Does anyone know what a wind turbine is?”
- “Does anyone know how it works?”
- Today we are going to make pinwheels which are a lot like wind turbines but really tiny.

Major instructional Sequence:

- Split the class into groups of four.
- Give each group:
 - 1 pencil
 - 2 pieces of paper
 - markers
 - 1 pushpin
- Following the instructions found at <http://www.enchantedlearning.com/crafts/pinwheel/>
 - (although the decoration should not be patriotic but more nature oriented)

Concluding Sequence:

- Discuss the similarities between the pinwheel and a wind turbine in order to teach students how wind power works
 - Show picture found at http://www.vestas.com/files/billeder/Photos/Modern_Energy/modern-energy_experiencethewind_HowTurbineWorks_UK.jpg
 - Describe:
 - How blowing on the pinwheel is like wind

- How the paper on the pinwheel is like the rotor
- How the pushpin is like the nacelle (also called turbine housing)
- How the tower is like the pencil
- Show the picture found at http://greenpoweroregon.com/Images/WindDiagram_Lg.gif
 - Describe
 - How the generator converts energy into electricity
 - How the energy runs through cables into the grid and to people's houses

Backgrounds:

Many students have never been exposed to the discussion of energy. In fact, many associate only gas and coal with energy. The goal of the lesson plan is to change this type of thinking. Renewable energy is a clean green energy source that is essential to waning our country off fossil fuels. By showing the students how pinwheels work we can introduce students to how wind turbines work.

Vocabulary:

Potential energy- having the capacity to create power