



Lesson Logistics - Classroom Wind Farm

Learning Outcomes

Grades 10-12
Force, motion, and work
Energy and momentum
Fields

Class Organization

Divide the students into groups of six to eight.

Notes

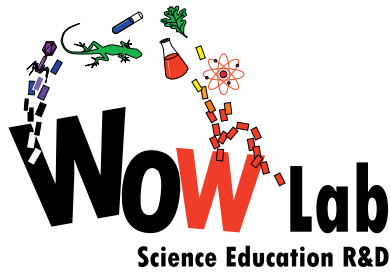
A large area of floor space is needed for the setup of the box fans and the classroom wind farm.

Ask students to form groups of six to eight to complete the activity. Allow each group to spend 5-10 minutes discussing where they would build a wind farm in their town. They should consider the various geographic features that can affect wind flow patterns.

Distribute the necessary materials to every group. Every member of the group will create their own individual windmill. Refer to the *Activity Instructions*.

As a class, have the students work together and then combine their windmills into one large wind farm. For directions on how to properly wire the wind farm, see the *Activity Instructions*. Once the classroom wind farm has been properly setup, test the wind farm indoors using the box fans.

Afterwards, the wind farm may be transported outside. Using the voltmeter, measure and record the voltage produced by the wind farm at different locations. Have the students discuss why the wind farms produce more power at certain locations compared to others.



Lesson Logistics - 10 Ft. Outdoor Windmill

Learning Outcomes

Grades 10-12
Force, motion, and work
Energy and momentum
Fields

Class Organization

As a class

Notes

Have the students work together in one large group. Test the large windmill outdoors, measure the output of the large windmill and compare it to the output of pop bottle wind farm.

The construction of the large windmill requires a large area within a classroom for a period of at least two days.

A large area outside is necessary to set up the large windmill.