

## Pinwheel Exercise

### Introduction:

This experiment provides students with the opportunity to identify and apply fundamentals of wind energy. Students will build a pinwheel, explore the concept of wind and discover wind's power to move objects.

### Objectives:

- Understand how wind moves objects
- Understand how wind can create power
- Demonstrate ability to follow directions and build a wind device

### Before the Lesson:

1. Ask students "What is wind?"
2. Discuss that wind is a change in the atmospheric pressure. Visit the Department of Energy website for visuals and explanation.  
[http://tonto.eia.doe.gov/kids/energy.cfm?page=wind\\_home-basics-k.cfm](http://tonto.eia.doe.gov/kids/energy.cfm?page=wind_home-basics-k.cfm)
3. Ask students about things that they see move in wind. Create a list of these items.
4. Ask students "How does wind makes things move?"
5. Discuss how pressure from the wind pushes against objects causing them to move in one direction or another depending on the direction of wind.

### Making the Pinwheel :

#### **Materials**

Print out of pinwheel template

Pencil with eraser

Thumb tack

Crayons, colored pencils, or markers

### Testing the Pinwheel in the Wind:

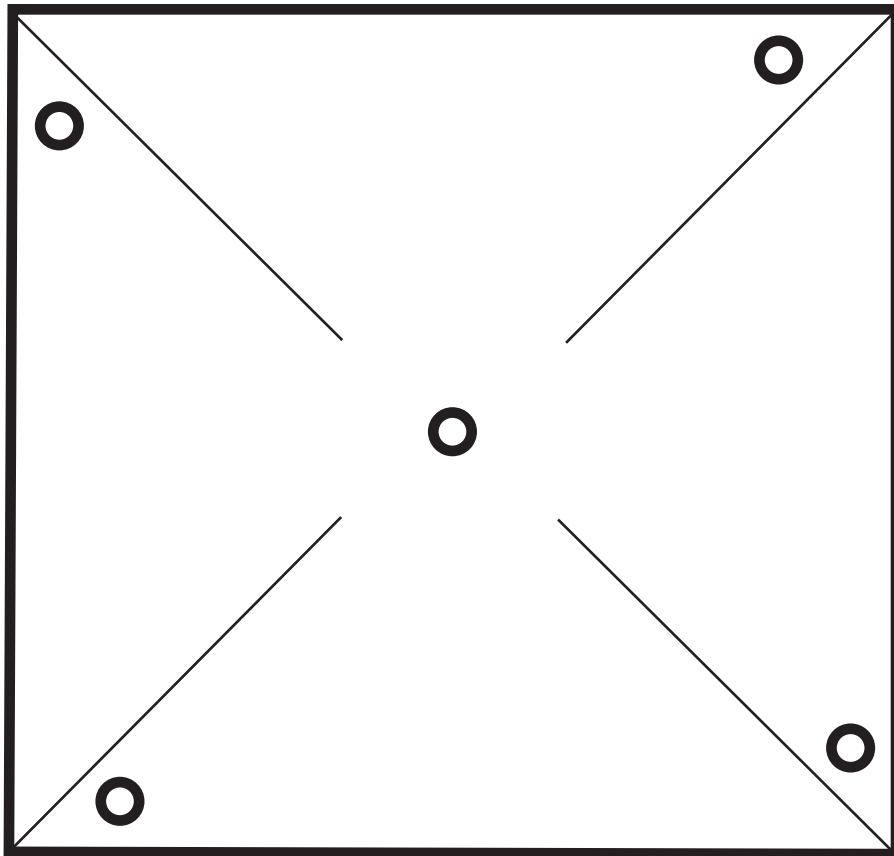
1. Take students outside with their pinwheels (preferably on a windy day)
2. Ask students to stand in a line
3. Rotate the students to face north, south, east, and west (discuss what happens in different directions)
4. Have students stand in place with their pinwheel (discuss what happens)
5. Have the class create a list of ways to make their pinwheels move. (i.e. blowing on them, running, spinning in circles)
6. Have students try each of the suggestions and discuss what occurs

### Assessment:

1. Does the pinwheel spin faster when you face a particular direction?
2. Does the pinwheel spin faster when you stand in place or run?
3. How does wind move the pinwheel?

# Energy Education for Students

## *How to Make a Pinwheel*



### **Making a Pinwheel**

***Requires Teacher Supervision***

1. Color the pinwheel template
2. Cut on the lines
3. Punch out the holes (or poke them with thumbtack)
4. Bring all of the holes to line up with the center hole
5. Push a thumbtack through the holes
6. Push thumbtack into the side of the eraser (do not push too tight, blades of the pinwheel should be able to move if wind is applied)