

Wind

Science Background

Wind is a "renewable" resource, which means that it will never run out and can be used over and over. Wind turbines capture the wind's energy with two or three propeller-like blades, which are mounted on a rotor, to generate electricity. The turbines sit high atop towers, taking advantage of the stronger and less turbulent wind at 100 feet (30 meters) or more above ground.



Pinwheel

Objective: We will learn about wind energy, what devices use wind energy, how energy in the wind creates movement.

Hypothesis: How do you know when wind is blowing?

Materials: Pinwheel pattern, Scissors, Straight pin, Pencil w/eraser, 2 Bugle Beads, Earring back, Crayons (optional)

Procedure:

1. Draw and color designs on the pinwheel.
2. Cut out the pinwheel. Cut towards the center of the pinwheel on the dashed lines.
3. Use scotch tape rolled up for your center connection for the ends of the pinwheel. Take the corners marked with an X and fold them up to the center of the pinwheel. Push the corners firmly on the tape to secure the ends.
4. Take the straight pin and insert a sequin on the pin. Push the pin through the center of the pinwheel to the other side.
5. Push the pin through the pencil eraser. Put the remaining sequin on the pin and secure the pinwheel by attaching the earring back.

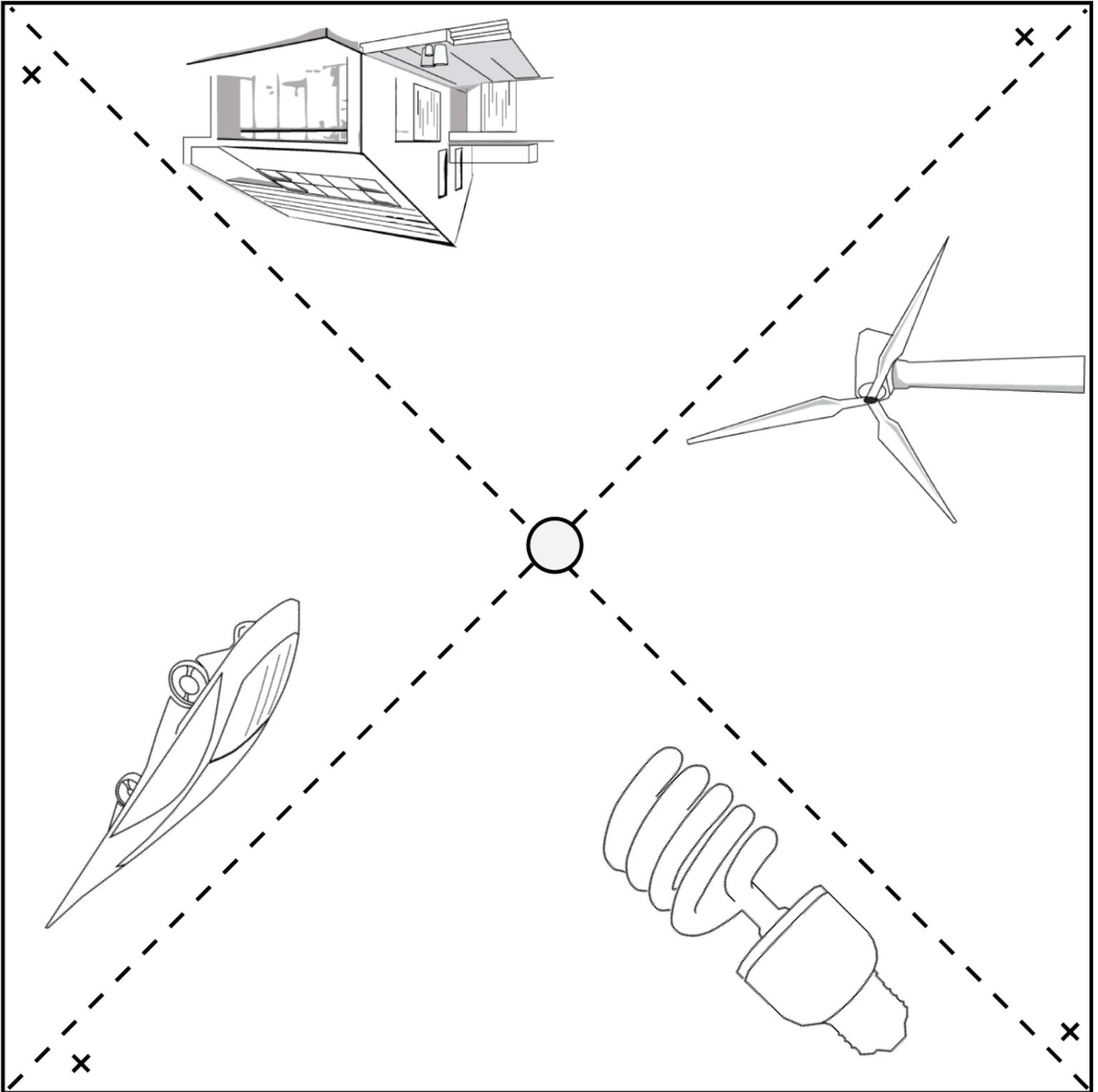
Data: (Completed pinwheel)

Conclusion:

1. Where does the pinwheel get its energy from?
2. What happens to the pinwheel when it's in the wind?
3. How can you make the pinwheel spin when there's no wind?
4. How do you know when wind is blowing?
5. Was your hypothesis correct?



Making a Pinwheel



Teacher Resources

Suggestions

1. You may want to pre-cut the pinwheels depending on the age group you are working with.
2. Students can experiment with motion by drawing large (1-inch squares around the pinwheel) and see what shapes they get when the wheel turns. Students can also experiment with color. Have them draw red stars alternating with blue stars in a line all the way around the wheel. See what colors they get when the wheel turns.
3. Set up a fan and put it on the lowest setting. Have the students hold their pinwheels in front of it and observe. Turn up the fan and ask the students to observe. Did the pin wheels blow faster? Slower? What can you conclude from this? You can also blow on the pinwheels or take them outside to test the wind.