

# Curious George Pinwheel

Make your own pinwheel and see how fast you can make it spin!



## Instructions

Students experiment with direction and force as they try to see how fast they can make their pinwheel spin.

- 1 Show students the windy day photos, and ask questions such as: Can you see the wind? How do you know it's there? When you're outside on a windy day, what does it sound like? What does it feel like? What do you notice blowing on a windy day?  
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- 2 Hand out pinwheel templates. Tell students to color both sides.  
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- 3 Cut out the pinwheel, and then cut along the diagonal, dashed lines.  
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- 4 Use the pushpin to poke holes at the 5 dots. Twist the pin to make the holes smooth, which will help the pinwheel spin.  
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- 5 Stick the pushpin through each of the corner holes, through the center hole, and then into the top of the pencil eraser.  
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- 6 Experiment with blowing on the pinwheel from different directions and with different levels of force.

## Materials

### PER CLASS:

- Photos of windy days—trees blowing, hair blowing, child blowing bubbles, wind surfers, and so on.

### PER STUDENT:

- Pinwheel template
- Unsharpened pencils with erasers
- Crayons and markers
- Blunt scissors
- Pushpins

## Engineering & Science Connections

- 🔗 Engineers design wind turbines, which work much the same way as pinwheels. Wind turbines range in size, but the average height of a typical electricity-generating wind turbine is about 325 feet, which is the same as a 30-story skyscraper!
- 🔗 Wind turbines convert the kinetic energy of wind to mechanical energy in rotors. Then the rotors convert mechanical energy to electrical energy in a generator, which spins special magnets around a wire to induce an electrical charge.
- 🔗 Both pinwheels and wind turbines have to be designed to catch as much wind as possible without breaking under stress. This means figuring out the best curves for the blades and how to best angle them toward the wind. And also figuring out which materials are light enough to spin, but strong enough to resist tearing.

## Guiding Questions ?

Can you make your pinwheel spin faster? Slower?

Can you make it spin in the opposite direction? How?

Can you think of anything else in nature that could be used to create electricity?

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# Make a Pinwheel!

## STUDENT HANDOUT

- 1** Make a pinwheel template for each child; have the children color both sides of the pinwheel.
- 2** Cut out the pinwheel; cut along the diagonal, dashed lines.
- 3** Use the pushpin to poke holes at the five dots. Twist the pin to make the holes smooth. This will help the pinwheel spin.
- 4** Stick the pushpin through each of the corner holes, through the center hole, then into the top of the pencil eraser.

