

# DIY ACTIVITY

## MAKE YOUR OWN WIND VANE GRADES 3-5

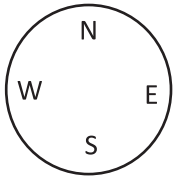
### OBJECTIVES

- Build a device to measure wind direction.
- Record wind direction data.

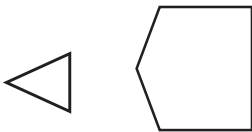
### PROCEDURE

#### WATCH THE GENERATION GENIUS WEATHER VS. CLIMATE VIDEO AS A GROUP

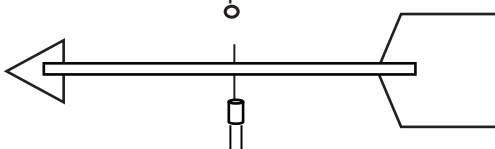
1. On the bottom side of one paper plate use a marker to write letters to represent the compass directions - N at the top, E on the right, S at the bottom, and W to the left (from top clockwise).



2. Cut an arrow tail and point from the poster board. The tail should be much larger than the point so that it catches the wind.



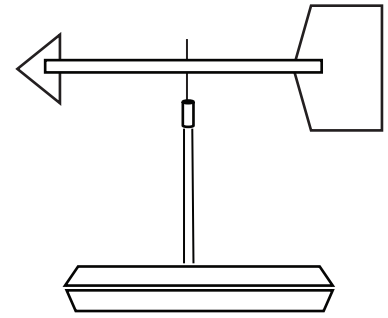
3. Cut slits about 1 inch long lengthwise on both ends of the straw.
4. Slide the arrow tip and tail into the slits in the straw to create an arrow.



### MATERIALS NEEDED

- One plastic straw per student
- Two paper plates per student
- Marker
- One pencil with a new eraser per student
- Scissors
- Tape
- Poster board
- One straight pin per student
- Ruler
- Modeling clay
- Table fan

- Next, hold the arrow so that the tip and tail are perpendicular to the surface of the table. Press the straight pin down through the exact center of the straw. Then stick the pin and arrow into the tip of the pencil eraser. Position the straw on the pin so that there is enough room for the arrow to spin.
- Press the tip of the pencil with arrow attached straight through the center of the plate where you wrote the letters. Use some clay on the other side of the plate to hold the pencil in place. This entire set up can be placed on the other face-up paper plate. Tape the plates together to create a base.
- Test the wind vane using the fan to represent wind.
- Take the wind vane outside to measure actual wind direction. Use a compass to align the North on your plate with the actual direction for accurate readings.



## WHAT IS GOING ON HERE?

A wind vane is an instrument that can measure wind direction. The moving air created by wind catches the tail of the wind vane, causing it to turn so that the tip of the arrow points in the direction from which the wind is blowing (you can test this using the fan). This wind vane shows wind direction, but it is up to the user to record it. Digital wind vanes can both measure and keep track of wind direction over time.

## FURTHER EXPLORATION

Use your wind vane to collect local wind direction data over time. Create a table in your science notebook to collect the data. For example, you could go outside and look at the wind vane direction once every hour for several hours. Is the wind consistent (does it stay the same)? What factors might affect wind direction readings? Have another student place their wind vane in another location nearby and collect readings at the same time. Is the data collected the same? Discuss reasons why it may vary. Also, plot the data you collect on a graph to be able to see how wind direction changed over time and determine which was the predominant direction of the wind.