CURIOSITY AT HOME
DIY WEATHER VANE

Make your very own weather vane using some common materials and track the wind in your neighborhood!

MATERIALS

- Thin cardboard or cardstock
- Markers
- Pencil
- Drinking straw
- Push pin
- Scissors
- Ruler and/or protractor
- Science notebook or paper
- Something to write with

PROCEDURE

- Draw a circle on the thin cardboard or cardstock. Your circle should have roughly a 6-inch diameter, but can be smaller or larger. A circular object like a roll of masking tape or a small plate can come in handy to trace.
- Cut out the circle using a pair of scissors.
- Using a writing instrument and a ruler or protractor, draw a line through the middle of the circle. Turn the circle 90 degrees and draw another line, so that there are four equal sized sections drawn onto the circle. It will be more precise if you use a protractor to measure these lines, but if you don’t have one, just make your best guess.
- Now write an N, E, S, and W on your circle to signify North, East, South, and West in their corresponding places. Feel free to write or trace these letters with markers so that they really stand out. You’ve essentially created a compass to show direction!

Optional: Measure other equal sized sections and draw them on like you’re cutting a pie into multiple equal sized pieces. These can help you figure out more specific directions than just North, East, South, and West. Now you’ll have NE, SE, SW, and NW!

Experiment continued on next page...

Show us how you’re being curious! Share your results with us.
PROCEEDURE continued...

• Take a pencil and poke it through the center of your circle where the lines you drew intersect. Leave the pencil in the hole you created with the eraser end sticking out of the top of the circle with the lines and directions written.

• Next, take a drinking straw and cut it so that the length of it is about the same as the diameter of the cardboard circle you created. It doesn’t need to be precise. You’ll also want to cut a small slit in one end of the straw.

• Take a small piece of leftover cardboard or cardstock and cut it into a small triangle. Optional to color in the triangle so that it is easy to see.

• Slide the triangle into the slit you cut at the end of the straw. It should look like the shape of an arrow.

• Poke a push pin through the midpoint of the drinking straw. Make sure the push pin goes all the way through and that the straw can spin freely on it. When completing this step, it’s up to you if you’d like the point of the arrow to be rotated vertical or horizontal. Either direction will work.

• Now poke the end of the push pin into the eraser on the pencil. Again, make sure the straw can rotate easily.

• Congratulations! You now have your very own weather vane! Now you’re ready to take it outside. If you have a directional compass, use it to figure out which direction to place or hold your weather vane outside. If you don’t have a directional compass, but have a rough sense of which directions are North, East, South, and West, arrange your weather vane with your best guess. If the wind is blowing, you should notice that the triangle on your weather vane is pointing in the direction the wind is blowing! Feel free to push your pencil into the ground and check on your weather vane periodically to check on the current wind direction.

• Optional: Make a simple base for your weather vane by placing some weight in a small box and poking the pencil on your weather vane through a hole in the top.
TRY THIS
There’s lots of ways you can tell what direction the wind is blowing! In addition to weather vanes, you may have noticed other tools such as windsocks. Windsocks not only show the direction the wind is blowing, but also the wind’s speed based on the angle that the windsock is moving. Can you think of other ways in which you could determine the direction the wind is blowing?

DID YOU KNOW
Weather vanes are really old! They were likely invented at some point during the 2nd century BCE. They are often not only functional, but also decorative. Can you think of a way to change the look of your weather vane so that it is uniquely yours?
K–2 GRADE EXPLORATION

• Take your weather vane outside a few times throughout a day. Is the wind blowing hard enough to move the vane? Is it blowing the same direction each time you take it outside?

• On a windy day, stand outside and make a guess about what direction you think the wind is blowing. Then get out your weather vane. What direction of wind is your weather vane reporting? How close was your guess?

Show us how you’re being curious! Share your results with us.

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3–5 GRADE EXPLORATION

Explore the following questions and write your observations in your science notebook.

• Check the direction that the wind is blowing with your weather vane multiple times in one day. Is the wind blowing the same direction throughout the day or is it changing?

• Weather stations track wind direction, wind speed, amount of precipitation, temperature, humidity, and more. Can you think of any ways in which you could measure and keep track of these conditions at home?
6–8 GRADE EXPLORATION

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