



Wind Activity 2

Make Your Own Wind Dial

Objectives and Standards

- To understand how wind is measured by making your own wind dial

NSTA Standards Addressed

Content Standards

A, B, D, E, F, G

4-H SET Abilities Addressed

Build/Construct

Use Tools

Observe

Communicate

Model/Graph/Use numbers

Troubleshoot

Compare

Background

Wind brings the weather we experience right to us, then carries it away to someone else's community. Wind is the result of the movement of air between areas of high pressure in the atmosphere and areas of low pressure. It can also be tied to the amount of heat energy provided by the Sun's rays. The stronger the wind, the faster that weather can travel. This activity explores how scientists measure the strength of the wind.

Supplies Needed

- 4 dixie cups
- marking pen
- 2 (4-6") strips of stiff, corrugated cardboard, the same length
- ruler
- stapler
- thin nail
- sharpened pencil w/eraser

CoCoRaHS Extension Ideas

Watch the weather report on television, or read the weather section of the newspaper, daily for the span of a week, or even a month. Does wind in your area seem to come from the same direction every day? Are there exceptions? If there are exceptions, do they correlate with a unique weather condition, like a thunderstorm?

Activity

1. Color the outside of one dixie cup with the marking pen so it is distinctive from the others.
2. Cross the cardboard strips so that they make a plus (+) sign. Staple them together, being sure to keep the plus shape.
3. Take the ruler and a pencil and draw lines from the outside corners of where the cardboard strips come together to the opposite corners. Where the pencil lines cross will be the exact middle of the plus sign.
4. Staple the cups to the end of the cardboard strips; make sure the cups all face the same direction.
5. Push the thin nail (or thick wire piece) through the center of the cardboard where the pencil lines cross, and attach the cardboard cross to the eraser point of the pencil. Blow on the cups to make sure the cardboard spins around freely on the thin nail.

Discussion

A wind dial, or anemometer, allows you to calculate the speed of wind by measuring the revolutions (spins) of the cup. The wind carries small particles, bugs, and the weather with it, so it is important to understand wind. Think about the direction of wind in your



area. Does wind generally come from the same direction? Why or why not?

To calculate the velocity at which the anemometer spins, determine the number of revolutions per minute (RPM), the number of spins the cups make in 1 minute. Next, calculate the circumference (in feet) of the circle made by the rotating paper cups. Multiply your RPM by the circumference of the circle and you will have the velocity at which the anemometer is spinning (in feet per minute), which is the speed of the wind propelling the anemometer. It is important to remember that some forces are being ignored in this model, like drag and friction.





Please send us your feedback!

As a 4-H Educator, you know what has worked well, what has not, and how we can improve the *Tracking Climate in Your Backyard* curriculum. Please share your feedback about the curriculum. We'd love to receive copies of any reports or newspaper coverage about completed *Tracking Climate in Your Backyard* projects.

Fax or mail your completed feedback to Trisha Smrecak, Museum of the Earth, 1259 Trumansburg Rd., Ithaca, NY, 14850 or fax to: 607-273-6620.

Check the activity completed	Suggestions for improving the activity
Rainfall Activities <input type="checkbox"/> Make It Rain <input type="checkbox"/> Where Does the Rain Come From? <input type="checkbox"/> Stormy Weather	
Snowfall Activities <input type="checkbox"/> Confetti Snow Maps <input type="checkbox"/> How Much Water? <input type="checkbox"/> Edible Education <input type="checkbox"/> The Snowflake Game <input type="checkbox"/> Snow Journaling	
Temperature Activities <input type="checkbox"/> Energetic Weather <input type="checkbox"/> Shade of the Old Oak Tree <input type="checkbox"/> Temperature Through Time	
Wind Activities <input type="checkbox"/> Why Does the Wind Blow? <input type="checkbox"/> Make Your Own Wind Dial	
Hydrologic Cycle Activities <input type="checkbox"/> The Incredible Journey <input type="checkbox"/> Understanding Evapotranspiration <input type="checkbox"/> Pinecones: Mother Nature's Weather Forecasters <input type="checkbox"/> What is a Watershed?	
Climate Activities <input type="checkbox"/> Where is My Backyard? <input type="checkbox"/> Soak up the CO ₂ <input type="checkbox"/> Buckets O' CO ₂ : How Your Backyard Can Change the Ocean <input type="checkbox"/> Raise the Waters	
CoCoRaHS Participation <input type="checkbox"/> Precipitation measurements and other activities	

Please share your suggestions for improving the Tracking Climate in Your Backyard curriculum.

How have you used Tracking Climate in Your Backyard in your community?

Thank you for completing the Tracking Climate in Your Backyard curriculum feedback. We appreciate learning about how you are using the curriculum and receiving your suggestions for improving it.

Organization _____
Email _____

Contact Person _____
Date _____