

Build an Anemometer

Step 1: Use a marker or pen to draw a line about $\frac{1}{2}$ inch from each end of the straw (see Image 1). Hint: your pinky finger is about $\frac{1}{2}$ inch wide.

Step 2: Make your **wind catchers**. Take four cups and punch one hole near the rim of each.

Step 3: Make your **hub**. Take one cup and punch a hole through the center of its base (use a pencil for this). Now imagine an X across the mouth (opening) of this cup. Punch one hole near the rim at each end of that X (see Image 2).

Step 4: Slide one straw through the hole of one of the wind catcher cups. Bend the end of the straw that is inside the cup at the line you drew and tape it to the far side of the cup (see Image 3).

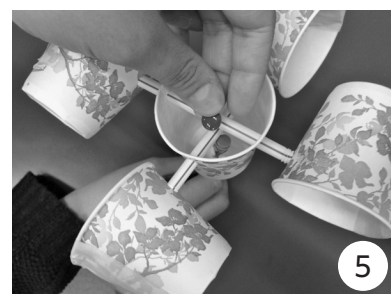
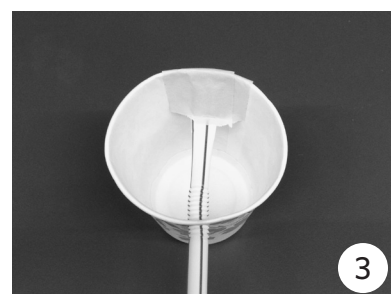
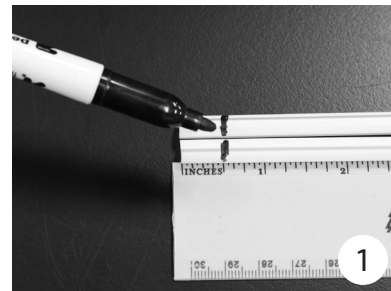
Step 5: Push the other end of the straw through two of the holes in the hub cup. Then, push the straw through the hole of another wind catcher cup. Bend and tape that end of the straw as you did in Step 4. Make sure that the openings of the two cups face opposite directions (see Image 4).

Step 6: Repeat Steps 4 and 5 for the remaining two wind catcher cups. It should look like the four wind catcher cups are chasing each other.

Step 7: Insert the third straw up through the bottom of the hub. Push the T-pin through the straws at the point where they cross (see Image 5). Line up the bottom of the T-pin so it hangs inside the opening of the straw that is poking up through the bottom of the cup. Work carefully. One partner should be holding the cups and the other partner should try to push the pin. Hold the bottom straw and test the anemometer to make sure it spins smoothly.

Step 8: Draw a large X on the bottom of one of the wind catcher cups with a dark-colored marker. This will help you count how many revolutions or spins your anemometer makes.

Step 9: Go measure the wind!



Your anemometer is now ready to use. Hold it in front of you in an open area where the wind is blowing. Look at the X on the bottom of the cup as it spins around. Count the number of times it spins around (revolutions) in 10 seconds. Use the table below to estimate the wind speed.

Number of Revolutions in 10 seconds	Wind Speed in Miles per Hour (mph)
2-4	1
5-7	2
8-9	3
10-12	4
13-15	5
16-18	6
19-21	7
22-23	8
24-26	9
27-29	10
30-32	11
33-35	12
36-37	13
38-40	14
41-43	15
44-46	16

