

Make an Anemometer

Materials Needed:

- five 3 oz. plastic cups or snow cones
- two plastic soda straws
- one pencil (with unused eraser)
- single-hole paper punch
- scissors
- tape
- one push-pin
- permanent magic marker (or spray paint)

Step 1

Cut the end off one cup to make a hole big enough for the pencil to fit in.

Step 2

Use the hole punch to make 4 holes in the top of the cup. Two holes opposite each other near the rim of the cup and two holes opposite each other about half a cm below the first holes (diagram 1).

Step 3

Slide the straws through the holes in the cup, as shown in diagram 1.

Step 4

Color one cup (not the one you just made holes in) a different color

Step 5

Use the hole punch (or scissors) to make two opposite holes in the other cups. About 1 cm from the rim.

Step 6

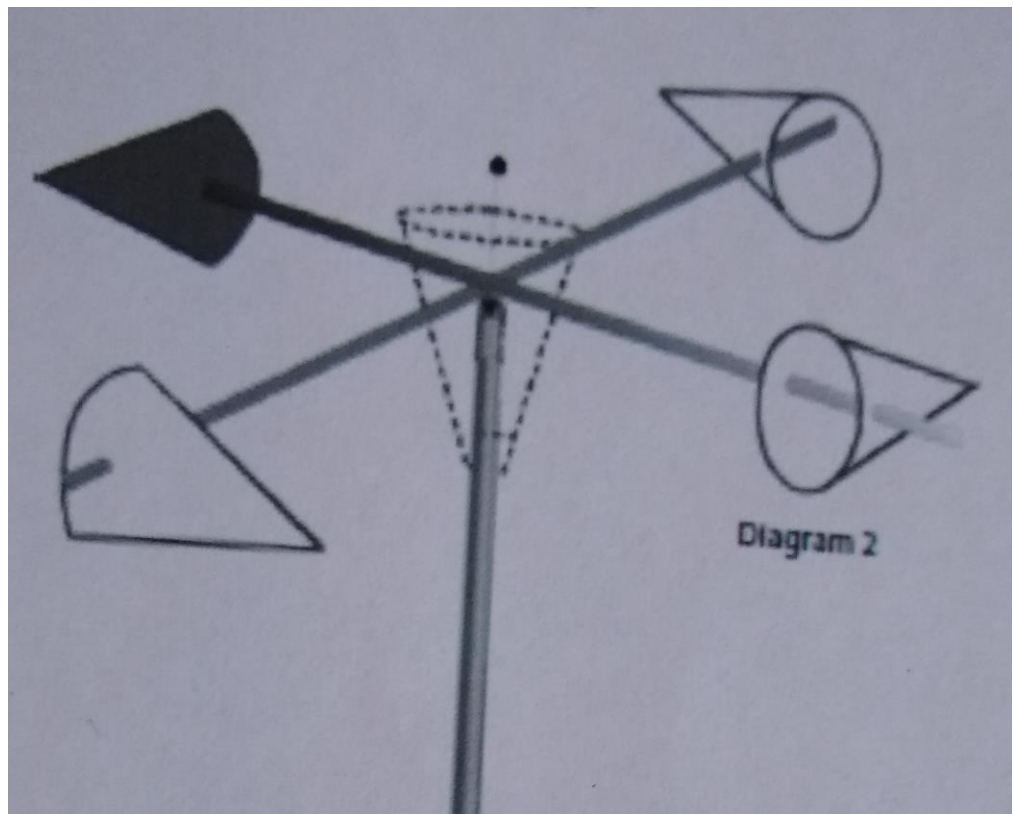
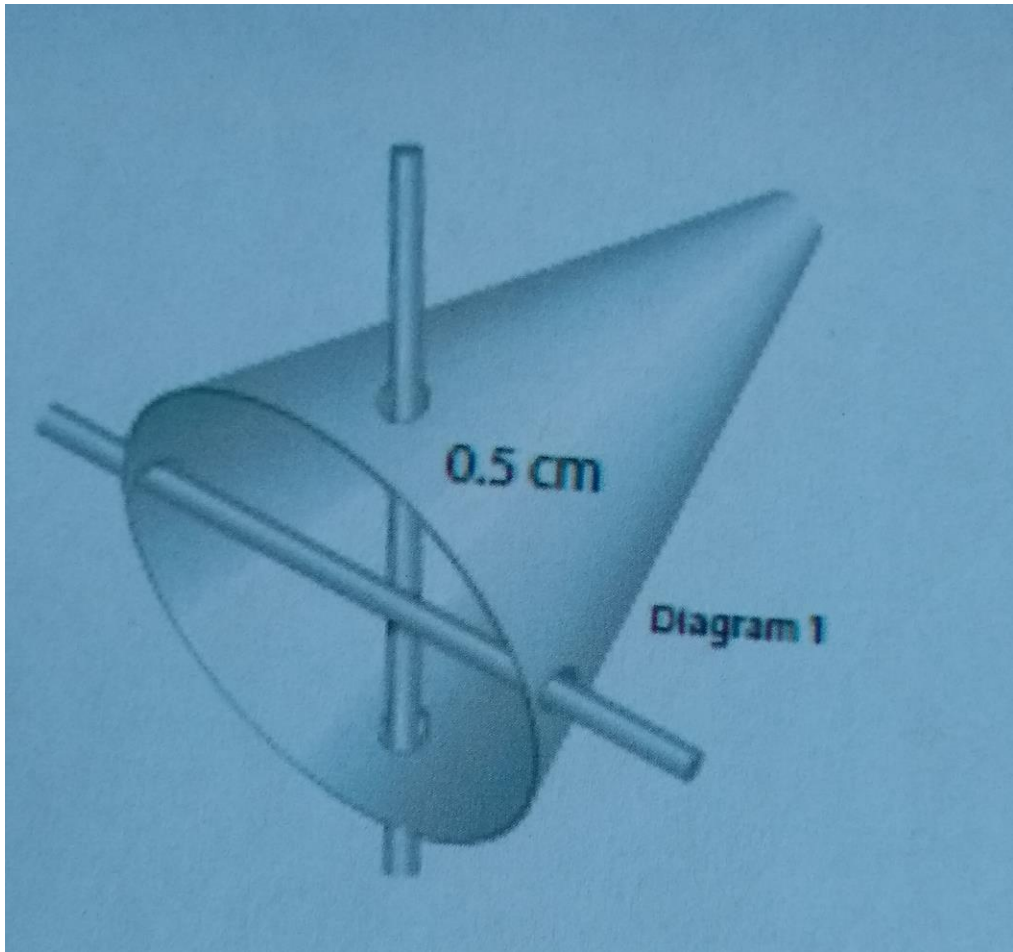
Slide one cup on the end of each straw. Make sure the cups are all facing the same direction.

Step 7

Center the straws in the base cup. Slide the base cup over the pencil (diagram 2). Push the pin through the middle of both straws and into the pencil eraser to anchor the straws. Make sure the straws can spin.

Step 8

Take your anemometer outside and measure the speed of the wind by counting the number of revolutions in 10 seconds. Use the chart to determine the wind speed in miles per hour.



Converting cup turns into wind speed

Revolutions in 10 seconds	Wind Speed in Miles per Hour (mph)	Wind Speed in Kilometers per Hour (kph)
2 - 4	1	2
5 - 7	2	3
8 - 9	3	5
10 - 12	4	6
13 - 15	5	8
16 - 18	6	10
19 - 21	7	11
22 - 23	8	13
24 - 26	9	14
27 - 29	10	16
30 - 32	11	18
33 - 35	12	19
36 - 37	13	21
38 - 40	14	23
41 - 43	15	24
44 - 46	16	26
47 - 49	17	27
50 - 51	18	29
52 - 54	19	31
55 - 57	20	32

Wind Strength		
0 --- Calm	less than 1 mph (0 m/s)	Smoke rises vertically
1 --- Light air	1 - 3 mph	Smoke drifts with air, weather vanes inactive
2 --- Light breeze	4 - 7 mph	Weather vanes active, wind felt on face, leaves rustle
3 --- Gentle breeze	8 - 12 mph	Leaves & small twigs move, light flags extend
4 --- Moderate breeze	13 - 18 mph	Small branches sway, dust & loose paper blows about
5 --- Fresh breeze	19 - 24 mph	Small trees sway, waves break on inland waters
6 --- Strong breeze	25 - 31 mph	Large branches sway, umbrellas difficult to use
7 --- Moderate gale	32 - 38 mph	Whole trees sway, difficult to walk against wind
8 --- Fresh gale	39 - 46 mph	Twigs broken off trees, walking against wind very difficult
9 --- Strong gale	47 - 54 mph	Slight damage to buildings, shingles blown off roof
10 -- Whole gale	55 - 63 mph	Trees uprooted, considerable damage to buildings
11 -- Storm	64 - 73 mph	Widespread damage, very rare occurrence
12 -- Hurricane	over 73 mph	Violent destruction

Findings:

	Date and location	Number of Spins	Wind speed in mph
1.			
2.			
3.			
4.			
5.			

Notes/Observations:

Sketches:

