

## Watching the Weather Continued from 4/21/20

### Making a DIY Anemometer:

#### Materials Needed

- (2) plastic straws and a bulletin board push pin
- A #2 pencil with eraser and A hole punch
- (5) 3oz. paper cups
- An 16 oz. plastic water bottle and Clean play sand



In one cup, cut (4) holes opposite of each other. Push the straws through the holes to create a cross at the center of the cup opening. With the remaining (4) cups cut (2) holes adjacent to each other about a 1/2 inch apart. Thread the ends of the straws through these holes on each cup making sure that the cup openings are all facing in the same direction.

Using the sharp point of the pencil, punch a hole in the bottom center of the first cup. Push the pencil, eraser end first, up through the hole until it meets the straws, wiggling the pencil to enlarge the hole so the cups can rotate easily. Lightly push the push pin through the two straws into the eraser. Do not push too far or this will create too much friction and the anemometer will not rotate. Test the spin. If it does not spin on the pencil easily...loosen the pin. Take it outside on a breezy day or use a fan to make sure it spins freely.

To calibrate your anemometer:

On a windless day, have someone drive you down the street at 10 miles per hour. Hold the anemometer out the window and count the number of rotations in 30 seconds. However, many times your anemometer spins in 30 seconds will correspond roughly to wind blowing at 10 miles per hour. Why calibrate? Calibrating your anemometer gives you a basis to compare your collected data. For example, if your anemometer spins 10 times in 30 seconds on your 10 mile per hour test run, then you know in the future that 10 spins in 30 seconds means the wind is going 10 miles an hour. If you want to be even more accurate, you can calibrate at many different speeds and make a chart of your results.

To stabilize your anemometer in the wind when taking measurements, take a (2) liter plastic bottle and fill it to the top with clean play sand. Press the pencil through the bottle opening into the sand until it feels secure but the spin of the anemometer is not inhibited. Place it outside on a windy day, avoiding buildings that may block the flow of the wind. You are ready to record data.

