Converting Rotations Per Minute (RPM) to Miles Per Hour (MPH)

(It was intended that math be a part of these STEM lessons!)

In order to convert from rotations per minute to a linear speed you need to:

1. Measure the diameter of the anemometer (for this exercise, let’s say it is 1 foot)
2. Calculate the circumference of the anemometer (Pi x diameter) or 3.14 x 1 ft=3.14 ft
3. Multiply the circumference by the RPM you measured (e.g., let’s say it was 100 RPM for this example)
   1. 3.14 ft x 100 RPM = 314 feet traveled per minute
4. Multiply by 60 to go from feet per minute to feet per hour
   1. 314 x 60= 18840 feet per hour
5. Divide by 5,280 feet per mile to convert feet per hour to miles per hour:
   1. 18840/ 5,280=0.36 mph

100 RPM = 3.6 MPH for an anemometer with a diameter of 1 foot