WorldStrides®

Introduction to Weather

DO/SHOW	SAY
Welcome	Understanding meteorology, or the study of weather requires quantitative observation of multiple variables. An anemometer is an instrument that measures wind speed. Wind speed (gusts and lulls) helps to indicate changes in weather patterns.
Why?	Weather impacts a lot more than just your choice of outfit! Changing weather can influence economic outcomes in the form of agricultural and industrial output, and energy demands.
Temperature	The hotness or coldness of a substance (that substance can be gas, liquid, or solid) is called temperature. This weather variable is expressed using Fahrenheit (US) and Celsius (pretty much everywhere else).
Wind Speed	Wind Speed can be measured as a rate per time (i.e. MPH) or converted to the Beaufort Scale (see scale below).
Using an Anemometer	• Always hold the anemometer above your head to minimize the wind that is blocked by your body – weather stations generally take wind measurements 10 meters above the ground. • Always take several measurements and average the wind speed to account for gusts and lulls – weather stations tend to report the average wind speed over a two minute period.

The Beaufort Scale			
Wind Speed (MPH)	**Force**	**Description**	**Conditions**
0	0	Calm	Smoke rises vertically
1-3	1	Light air	Smoke drifts
4-7	2	Light breeze	Leaves rustle, wind vane in motion
8-12	3	Gentle breeze	Leaves in constant motion; light flag extension
13-18	4	Moderate breeze	Raises duct and loose paper; small branches move
19-24	5	Fresh breeze	Small trees sway; crested wavelets on inland water
25-31	6	Strong breeze	Large branches in motion; whistling in telegraph
32-38	7	Moderate gale	Whole trees in motion
39-46	8	Fresh gale	Breaks twigs off trees; impedes normal walking
47-54	9	Strong gale	Slight structural damage to buildings
55-63	10	Whole gale	Large branches broken; some trees uprooted
64-72	11	Storm	Large trees uprooted
73+	12	Hurricane	Widespread damage occurs