



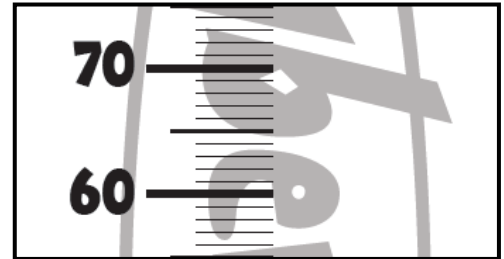
IS TODAY A GOOD DAY TO FLY A KITE?

Use these quick tips to take measurements, make observations, and engage your child in some fun, math-based weather-watching!

1. What's the temperature outside? Read the thermometer!

Reading a thermometer is a great habit to get into with your child before venturing outside and gives kids practice reading a temperature scale. As you read the thermometer with your child, you'll quickly see that it's not difficult to measure the temperature when the top of the bar is exactly opposite a number, but what does it mean when it is between two numbers? How many degrees do those little hash marks represent? If your child is having difficulty reading the temperature, try enlarging a section of the thermometer scale to make it easier to talk about how to figure it out.

For example, on a piece of paper you might draw the section between 60 and 70 degrees. When you divide the scale into 10 equal parts (using 9 hash marks), help your child see the hash marks represent more than 60, less than 70, and since there are 10 equal parts, each mark must stand for 1 degree. You can have your child count by ones from 60 to 70 to confirm this. (Ask: *What if the scale between 60 and 70 were divided in two equal sections with one hash mark?* The mark must represent 5 degrees.)



Do the same for 5 equal sections (4 hash marks) and count by twos. With practice like this your child will be able to read the temperature using any thermometer, and at the same time gain valuable practice reasoning about numbers, number patterns and estimation.

2. Look for patterns in your weather.

Tracking the weather in your area day to day, week to week, or even month to month is an excellent way to give your child experience collecting and analyzing data, using math in a way that is vital to understanding the world around us. One simple activity is to measure and record the temperature at the same time each morning and night.

Make a table with columns labeled with the hours you take your measurements (8:30 AM and 8:30 PM, for example) and rows labeled with the days of the week. Record the temperatures in each 'time/date' cell. At the end of a week, invite your child to talk about what the data reveals. You might ask, *Do you see a pattern in how the temperature changes from morning to night?* And the following week, you might ask your child to predict how the temperature will change on any given day from morning to night.

Or you might track wind direction at regular intervals over several weeks, and record the weather that follows. To track wind direction, help your child make a simple wind sock, and use a compass to mark north, south, east and west relative to where you hang the sock. Note that a north wind *comes from* or blows out of the north, a south wind *comes from* the south, etc. You can use the data you collect to note the prevailing winds for your area (the direction from which winds in your area typically come), as well as the weather these winds tend to bring. You can even use this information to predict the type of weather you are likely to have.

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3. Measure how much rain fell after a storm.

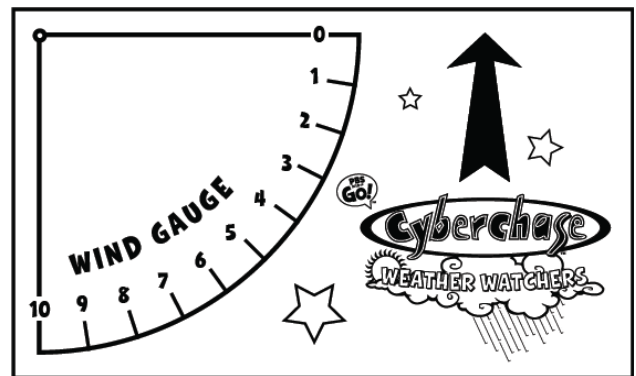
Your child will enjoy measuring how much rain fell after a storm, and doing so provides valuable experience working with fractions and mixed numbers. To measure rainfall in a 24-hour period, place a flat-bottomed, straight-sided see-through container (a plastic quart-size storage container works well) in an area free of overhangs or tree branches. After a rain storm, help your child hold a ruler upright in the container and measure to where the surface of the water comes. To help your child understand the hash marks representing fractions of an inch, use permanent markers to color each fraction hash mark differently. For example, color the 1/2 inch mark red, the 1/4 inch marks blue, and the 1/8 inch marks green.

For fun, once you've measured how much rain fell, figure out how much snow would have fallen had the conditions been right to turn the rain into snow. To do this, multiply the amount of rain that fell by ten. (For example, 1 inch of rain would have been about 10 inches of snow!)

4. Measure the strength of the wind.

Is today a good day to fly a kite, or sail a boat, or play outside with a pinwheel? It's easy enough to look outside to see if the wind is pushing hard on things like tree branches or people's hats, but just how hard *is* the wind blowing? And does it blow harder in one place than another? You don't need fancy equipment to find the answer: Your child can make a simple wind gauge, practice reading numbers to compare wind strengths, and find the windiest place to fly that kite!

To measure the wind's strength, you need a length of string with a paper clip attached to one end, and a number scale to see how far the wind pushes the string when it blows. To make the scale, anchor the string to one corner of a piece of cardboard and swing it upwards to draw an arc (because the string will arc upwards when the wind blows). Add equally spaced hash marks along the arc and number them, starting at 0 where the string hangs down straight. (Or you can print and make a simple CYBERCHASE *Weather Watchers* wind gauge at pbskidsgo.org/cyberchase.) Together with your child, point this simple gauge into the wind and read off where on the scale the string has been pushed.



5. Weather lore.

"A sunshiny shower won't last half an hour." "Evening red and morning gray are sure signs of a fine day." We all have our favorite weather sayings, but are they true, or just folklore? Invite your child to pick a favorite saying to test over time. To do this, begin by asking what you will need to find out if the saying is true. Make a journal and keep it handy so you and your child can make notes each time the weather conditions match the saying. You need to test more than once or twice so you can see if there is a pattern of truth to the saying, or not. If the saying is true more often than not, have fun using it as a fun weather predictor.

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