

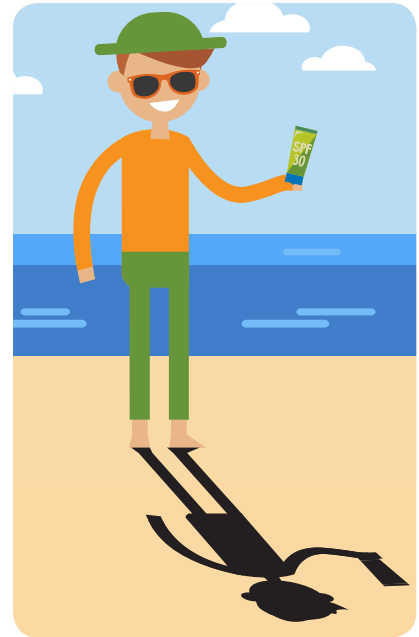
Shadow Observations

Try the experiment below. Measure your shadow at different times during the day. See how your shadow's length changes depending on the time of day.

Experiment Question: What can our shadows tell us about the strength of the sun's rays?

Directions: Observe your shadow at least twice on the same day. Be sure to protect yourself from the sun before going outside. And be sure to have a grown-up with you. Follow these steps:

- Write your height on the line below.
- Fill in the day and date, weather, and UV Index for the day of your experiment.
- Before going outside, predict whether your shadow will be shorter, taller, or the same height as you, or whether you will have no shadow.
- Write your prediction on the chart.
- Go outside with a grown-up at the following times to measure your shadow.
 - Early morning (before 10 a.m.)
 - Midday (between 12 p.m. and 4 p.m.)
- Mark the spot where you will stand with chalk. Stand in the same spot both times.
- Have a partner mark the top of your shadow with chalk.
- Measure the length of your shadow with a ruler, yardstick, or piece of string. Write your shadow measurement in inches, on the chart below.
- On the lines under the chart, write your observation. Also describe what your shadow measurements tell us about the strength of the sun's rays.



My Height: _____

Day & Date	Weather	UV Index	Time	My Shadow Prediction (short, tall, same as my height, no shadow)	Shadow Measurement

My Observation and Explanation: _____

Optional: Measure your shadow midmorning (between 10 a.m. and 12 p.m.) and late afternoon (between 4 p.m. and 5 p.m.). What do you notice?