



CREATE A SUNDIAL

Use the sun to tell time.

Materials

- A straight stick about 2 feet long
- Pebbles or other small objects
- A watch or clock



Procedure

- Find a sunny spot outside and push the stick into the grass or dirt.
- Start in the morning when the sun is up. At 7:00am use a pebble to mark when the shadow of your stick falls. Come back every hour until there is no more daylight. You may want to write on your pebbles with chalk or a sharpie to keep track of what time they were placed.
- By the end of the day, your sundial will be complete! You can use the the sundial to tell time from now on!

Results

You have built a sundial that can tell the time during daylight hours!

Why? The sun is not actually moving around in the sky; its apparent motion is a result of the earth's rotation. Ancient peoples used to believe the sun, moon, and stars moved around the earth, because they could observe these objects moving in the sky. Scientists now know these celestial objects only seem like they are moving because the earth is constantly spinning. The earth rotates at a constant rate, so we can tell time by the shadows that are also moving at a steady rate.

A sundial tells the time of day based on the position of the sun in the sky. The flat part marked with the hours is called the dial, while the stick or rod is called a gnomon. The shadow cast by the gnomon lands on the time markers and lets you know the time.