

Paper Plate Sun Clock (Sundial)

1. Start this project on a sunny day just before 10 am.
2. Poke a hole through the very center of the paper plate. Write the number 10 on the edge of the plate with a crayon or pencil. Using a ruler as a guide, draw a straight line from the number 10 to the hole in the center of the plate.
3. At 10:00 am, take the plate and the straw outside. Put the plate on the ground and poke the straw through the hole. Slant the straw toward the line that you drew. Now carefully turn the plate so that the shadow of the straw falls along the line to the number 10.
4. Fasten the plate to the ground with some pushpins. Have your students predict where he/she thinks that the shadow of the straw will be pointing in one hour.
5. One hour later, at 11 o'clock, check the position of the shadow along the edge of the plate and write the number 11 on that spot. Continue each hour predicting the position and then checking and marking the actual position and time on the edge of the plate.

Discuss Your Sun Clock

At the end of the day your students will have a sun clock. On the next sunny day they will be able to tell time by watching where the shadow of the straw falls on their clock. For the sundial to work it must be placed in the same position as when it was created. Discuss with the students why this is so?

Reference

<http://www.nwf.org/kids/family-fun/crafts/sundial.aspx>

Standards

S2E2a. Investigate the position of the sun in relation to a fixed object on earth at various times of the day.

S2E2b. Determine how the shadows change through the day by making a shadow stick or using a sundial.