



HOW TO MAKE A SUNDIAL

Use this project to show your kids that they don't need an iPhone to tell time

Way before cell phones, there were actual clocks for telling time, ancient relics that used “hands” and numbers for showing you when it was time to watch your favorite show on your TV because you didn't have cable or DVR. Oh, the hardship.

And before that, man told time by using a sundial. Throughout the ages, people, animals and even plants have been using the sun to tell time. By making your own sundial, you can show your kids how to use the sun to tell them when it's time for a nap. When you're done, don't forget to take a selfie with your cell phone.

GATHER THIS:

- A sunny day
- A pencil
- Chalk
- Stick
- Rocks
- Playdough
- A compass
- A print-out of the [Sun Clock Diagram](#) (calibrated to San Francisco)

THEN DO THIS:

1. Find a sunny spot in a lawn or sidewalk.
2. Put the stick in the ground. If it is a sidewalk, put the stick in the playdough and use that to hold the stick upright on cement.
3. Throughout the day, place a rock, or mark with chalk for each hour indicating where the shadow falls at that time. Depending on your time, you may have to place rocks over a couple of days before your sundial is complete. Or use chalk and a ruler to draw in the shadow lines, instead of placing rocks on the hour.

Alternative: On a sunny day, go outside with a compass, pencil, and print-out of the Sun Clock Diagram. Put your compass on the ground and turn it so that the arrow and the “N” (for “North”) line up. Follow the directions on the Sun Clock Diagram to find out how to line up the Sun Clock with your compass. Once you have the Sun Clock pointed in the right direction, you can figure out what time it is.

ASK THIS:

- How does the sun's position change throughout the day?
- How does the time of year change how your sundial works?
- How does the light/shadow change throughout the day?

WHAT IS HAPPENING?

As the earth rotates, the sun appears to move across the sky. As light from the sun strikes your sundial from different angles, it casts shadows in new directions always opposite to how the sun appears to move. Earth rotates from east to west, so your shadow will move from west to east.

WHAT THIS TEACHES:

Skills: Patience, measurement predictions
Themes: Astronomy, light

Curi**o**dyssey

SCIENCE
PLAYGROUND
& ZOO