

# Garden Sundial

\*Note: This project takes an entire day to complete, marking off each hour. Though there should only be a half hour of “active” time, the sundial will not be complete until all the hours (only the ones during which the students are in school, of courses) are accounted for. It might be preferable to mark the sundial first, then decorate.

## Objective:

Create a decorative (and useful) sundial for the class garden, uniting form and function as students learn about the movement of the sun (or rather, earth), as well as what we can learn from nature.

## Materials:

- Polymer clay (such as Fimo)
- Chopstick
- Terra-cotta plant saucer
- Protractor and compass
- Enamel paint and brushes
- A stand for sundial (wooden stake with a flat top, a stool, a crate, anything that can hold a plate)

## Introduction:

Before there were clocks, how did people tell time? By the movement of the sun! Although the entire explanation isn't necessary, briefly discuss the earth's orbit around the sun, and how, between sunrise and sunset, the position of the sun in the sky provides information about the time of day.

## Preparation:

(This project requires a bit more preparation on the instructor's end, leaving most of the decorating to the class).

1. Roll a small ball of the clay, stick the chopstick pointer (called a gnomon) into it, then press the clay onto the center of the upside-down saucer. The angle between the gnomon and the saucer should be the same as the latitude where you live (for Providence, approximately 41.83 degrees).
2. Gently remove the gnomon, bake the clay according to the directions, then glue the gnomon

and clay ball back in place.

**Activity:**

1. Decide with the class where they'd like to place their sundial in the garden (pick a nice, sunny spot!), then position the sundial and stand outside with the gnomon pointing north. At noon, mark where the gnomon's shadow falls on the plate's perimeter. Without moving the plate, mark off the afternoon's and next morning's hours. Make sure to label each hour, for those who can't yet read the time!
2. Once all hours have been marked, decorate the dial with paints, then secure it in its original position.

**Wrap-up:**

Congratulate the class on a job well done. Can they tell what time it is by looking at the sundial? What other decorations might they add to make their garden even more beautiful? How could these decorations also be useful?

**Source:**

<http://familyfun.go.com/crafts/home-garden-projects/gardening-nature-crafts/garden-crafts/garden-sundial-665465/>