

# 1 HUMAN SUNDIAL

## BIG IDEA: We can tell time using the sun.

**OBJECTIVE:** *Students will learn how to read a sundial and how the seasons affect what we grow.*

This lesson is adapted from the FoodPrints lesson, [Growing With the Seasons](#). To learn more about the FoodPrints program and access the full curriculum, including instructional videos, visit [freshfarm.org/foodprints](http://freshfarm.org/foodprints).

### VOCABULARY

- **SUNDIAL** a timekeeping device which shows the time of day by the position of the shadow of an object exposed to the sun's rays
- **GNOMON** the projecting piece on a sundial that shows the time by the position of its shadow
- **SEASON** one of the four times of the year characterized by weather and daylight hours
- **SEASONAL FOOD** food that is grown and available during a certain time of year – for example, farms in Northern Virginia grow asparagus in the spring and tomatoes in the summer

### MATERIALS

- Seasonality Calendar (attached)

**ENGAGE:** *The engage section is designed to activate students' prior knowledge and experiences, pique their interest, and build curiosity.*

Welcome students to the JK Community Farm. Before starting the visit through the farm, ask students you the current time. To do that, they will most likely use a phone or watch.

*Ask: How do you think people told time before those technologies? How can the rocks in front of us help us tell time?*

Show students the way the rocks are laid out on the ground and explain that it is a Sundial, the earliest type of timekeeping device. A sundial uses a stick or rod (called a gnomon) which creates a shadow that falls on numbers representing the time of day. In a Human Sundial, your arm or body becomes that object!

Students can take turns using the sundial to tell time. Stand on the rock for today's month. Your shadow will point to the current hour. If you spend an hour at the farm, where will the shadow point? What about two hours?

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**EXPLORE:** *These hands-on and minds-on investigations offer an opportunity for students to further explore the Big Idea of the lesson.*

### INVESTIGATION 1:

**THE IMPORTANCE OF THE SUN.** We just learned how the sun can help us tell time.

What other jobs does the sun have on the farm?

*Plants use the sun during photosynthesis to grow; compost piles use the sun's heat to break down organic material; pollinators become more active on sunny days.*

Are there technologies that help us use the power of the sun?

*Solar panels use the sun to create energy; greenhouses regulate temperature with the help of the sun.*

### INVESTIGATION 2:

**EXPLORING SEASONALITY.** This is also a good time for students to think about seasonality, and that different foods grow at different times. Ask students to stand by the stone or stones with their favorite month or season and to imagine what the farm would look like then. What would the sky look like? Would there be plants growing? What would they look like?

We know that the food that is grown here at the farm changes with the seasons. We also know that we can buy tomatoes, watermelon, and corn at the grocery store all year round.

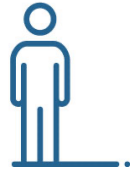
Ask students to share with a partner why they think we can have 'summer produce' all year round even though it only grows in this area during the spring and summer?

The attached seasonality chart is a useful resource for discussing what is grown at different times of year in the Mid-Atlantic.

**EVALUATE AND CLOSE:** *Before moving on to the next station, please take a few moments to have students reflect on what they have learned.*

- How does the sun help us tell time?
- What are the benefits and challenges of eating locally grown food?

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**SEASONALITY CALENDAR**



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