

Human Sundial Activity

A quick Google search will turn up many blogs and activities on making a human sundial (e.g., from [Crayola](#), [Science Made Simple](#), [Rhythms of Play](#)).

Materials Needed:

Compass or compass app on phone (for initial set-up)

Chalk (sidewalk chalk works best)

Measuring tape or meter stick

Clock, watch or phone

Pencil and Data Sheet

Set up:

1. Choose a sunny day for the activity.
2. Find an open space that will be sunny all day (e.g. parking lot, sidewalk, playground). If students are doing this in teams, each team will need 10-20 feet between them.
3. Place an 'X' on the spot the student will stand.
4. Around the X draw a small circle (~2ft in diameter) and mark North, South, East, West.

Activity Steps:

1. Have a student stand on the 'X'.
2. Trace around their shadow.
3. Inside the traced shadow write the time.
4. Measure the length of the shadow.
5. Record observations on your data sheet or in a science notebook.
6. Take photos!
7. Repeat this process at least 4 times over the course of the day. Make sure the same student stands on the 'X' for each measurement.

Questions to Consider During the Experiment:

1. Describe your shadow (long, short, skinny, fat, etc.)
2. What do you think your shadow will look like next time?

Questions to Consider After the Experiment (from Rhythms of Play blog above)

1. How do you think shadows are made?
2. What did you observe about your shadow and the sun?
3. Did the sun move? If yes, which direction?
4. In what direction did your shadow move?
5. Are the tracings the same? Why or why not?
6. When was your shadow the longest? When was it the shortest?
7. Why do you think that your shadow changes throughout the day?
8. Do you think that your shadow also changes throughout the year?

Sundial Data Sheet






Name: _____



Date: _____



Temperature: ☐ Hot ☐ Warm ☐ Cool ☐ Cold

 Time	 Length of Shadow	 Draw or Write Observations