



## Lesson Logistics

### Learning Outcomes

K to Grade 3	Grades 4-6
Daily and seasonal changes	Light

### Class Organization

Divide the students into groups of two.

### Notes

This activity involves the use of the sun as a time-telling device, therefore it is important that it is performed on a sunny day. The activity will be spread over a few days to allow the students to make predictions and then compare their predictions to the actual result. Check the weather report for a three day period to make sure that clear skies are expected. The sundial will be drawn using chalk, so ensure there will be no rain for the three days following the start of the activity.

In addition, a large, open space with full sun during the school day is required. Finding a suitable location may take some time, but most playgrounds will be appropriate. Ensure that no tall buildings or trees are nearby because they may interfere with the experiment at a later time by casting a shadow over the sundial. The area has to be large enough for the entire class to build their own sundial in groups of two.

### Further Exploration

Due to the sun's declination changing with the seasons, the position and length of the shadows formed using this sundial will also change with the seasons. Therefore, this is only a temporary sundial to teach students the concept of time. For a more accurate sundial, refer to the high school version of this activity. Potentially, high school students could build a sundial for the younger children to use on a more permanent basis.