How Does the Earth Move?

To complete this activity the paper must be able to accommodate shadows longer than 12 inches. You should be able to orient the paper in the same position each time. If possible, leave the paper outside, taped to the ground.

What you need:

- large sheet of paper
- marker
- ruler

What to do:

- Go outside. Place a large sheet of paper on the ground. Make an X in the center of it.
- OBSERVE: Hold the ruler in the center of the X perpendicular to the ground. Trace its shadow. Write the time.
- Put an arrow on your drawing to show where the Sun is in the sky. DO NOT LOOK RIGHT AT THE SUN.
- Repeat steps 2 and 3 at least two more times during the day.

Think and write:

- How did the length and position of the shadow change during the day?
- INFER: What causes the shadow to change?

Guided Inquiry:

- Work together: Work with a partner. Use a flashlight and different objects to make shadows. Discuss what materials make shadows. Tell how the shadows change.

Teacher's note: This activity can be adapted with sidewalk chalk and/or masking tape. If you do not have large paper you can mark directly on the pavement with sidewalk chalk.

**Be sure and relate this to how a sundial works.

GLE 0207.6.1 Realize that the sun is our nearest star and that its position in the sky appears to change**.**

GLE 0207.Inq.3 Explain the data from an investigation.