

# Reasons for Seasons

## Procedure

- 1. Use Model** Draw a line around the middle of the foam ball. The foam ball represents Earth, and the line represents the equator.
- 2. Use Models** Carefully push a pencil completely through the foam ball at a right angle to the equator. The pencil represents Earth's imaginary axis.
- 3. Collaborate** The yellow ball or balloon represents the Sun. Working with a partner, hold the Sun and Earth about 1 meter (3 feet) apart. Hold Earth's axis so the North Pole tilts slightly toward the Sun.
- 4. Use Variables** Move Earth in a circle around the Sun without changing its position in your hands. Be sure that the North Pole always points in the same direction.
- 5. Communicate** Repeat step 4, this time stopping at each quarter of the trip around the sun. At each position, discuss how the Sun's rays hit Earth. Record the positions and observations in the space below.

## Conclusion

Write the answers to the questions.

1. **Compare** When did Earth's northern half receive the most sunlight? When did the southern half receive the most sunlight?

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2. **Analyze Data** How does Earth's tilt affect the seasons where you live?

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## Investigate More!

**Design an Experiment** What if Earth's axis were tilted? Or what if its tilt increased? Use models to predict how Earth would be affected.