

Title: Rotate, Rotate, Revolve

Objective: Students demonstrate the movement indicated by the terms rotate and revolve.

Time: 5-10 minutes

Materials Needed: None

Greeting

Theme: Astronomy

Topic: Seasons

Suggested Grade Level: 3-5

Indoors or Outdoors: Either

Directions:

1. Students stand in a circle.
2. One student is *it* and walks around *inside* the circle lightly tapping 3 or 4 students. As the first two or three students are tapped, they are told to “*Rotate.*” Each tapped student then rotates once around in their spot while *it* moves on to the next student. (Similar to “duck, duck, grey duck”, but without chasing!)
3. The student who is *it* (the sun) taps the third or fourth student and says, “*Revolve.*” The chosen student then revolves (walks around) *it* one time. While revolving around *it*, the chosen student greets the *it* player by saying: “*Good Morning Sun!*”
4. The sun replies: “*Good Morning, (Planet name)!*” and takes the newly chosen player’s spot in the outer circle, sitting down to show they have already been greeted and cannot be chosen again.
5. Return to step 2 with the newly chosen player being *it/the sun*. Continue until all students have been greeted and are seated.

Discussion Questions:

1. What else can you name that rotates? Revolves?
2. How can we remember these two R words? (*rotate-straight or rotate has T for top...*) Let students brainstorm.
3. How long does it take the Earth to complete one rotation? What evidence supports this claim?
4. How long does it take for the Earth to revolve once around the sun? What evidence supports this claim?

Science and Engineering Practices:

2. Developing and using models.

Crosscutting Concept:

1. Patterns.

Disciplinary Core Ideas:

Earth and Space Sciences: ESS1: Earth's place in the universe.

Background Information:

- **Rotate:** when an object such as a planet spins on its internal axis.
- **Revolve:** when one object moves around another object (an external axis) in an orbit.
- The part of the Earth facing the sun experiences daylight while the part of the Earth turned away from the sun has night.
- The Earth **rotates** about once every 24 hours on its axis and **revolves** around the sun once every year or 365¼ days.

Additional Resources:

- *The Reasons For Seasons* by Gail Gibbons
- *Our Solar System* by Seymour Simon

Correlates with:

Activity - Rotate and Revolve: Earth's Movements (p. 65)

Interdisciplinary Lesson - Length of Daylight (p. 102)