

Title: Rotate, Rotate, Rotate your Planet

Objective: Review the terms rotate and revolve; review the concept that the tilt of the Earth affects the seasons

Time: 5 minutes

Materials Needed: None

Activity

Suggested Season: Any

Suggested Grade Level: 3-5

Indoors or Outdoors: Either

Theme: Astronomy

Topic: Solar Systems/Planets

Directions:

1. Students stand in a circle. An object or person can be placed in the center of the circle to represent the sun.
2. Students sing the following to the tune of *Row, Row, Row your Boat*.
3. Verse one: "Rotate, rotate, rotate your planet/ gently round its axis/each 24 hours the Earth rotates once/it's had a lot of practice." During this verse, students rotate once slowly, and safely.
4. Verse two: "Revolve, revolve, revolve your planet/ all around the sun/the hemisphere tilted the closest to it/ will be the warmest one." During this verse, students revolve around the sun by all walking in the same direction. For safety they should not rotate and revolve at the same time. They can pretend to be Mercury, which completes more than 2 revolutions before completing one rotation.

Discussion Questions:

1. Rotate and revolve are both words that begin with R. What tricks could you use to help you remember which means spins on its axis and which means circles the sun?
2. What other things can you think of that rotate? Revolve?

Standards Addressed:

Science: 0.3.2.2.2.; 3.3.3.2.2.; 8.3.2.1.1.

Language Arts: K.I.B.; K.II.B.; K.III.A.; 1.III.B.1.; 2.III.A.

Math:

Social Studies:

Background Information:

- **Rotate:** When a planet spins around its axis.
- **Revolve:** When a planet circles around another planet or the sun.
- The Earth is divided into two hemispheres by the equator. The two hemispheres have opposite seasons (Summer and Winter, Spring and Autumn). The hemisphere (Northern or Southern) tilted closest to the sun will be the warmest because it gets more direct rays of sunlight for a longer part of the day.
- Planets rotate and revolve at different speeds:

Planet	Rotation (in Earth Time)	Revolution (in Earth Time)
Mercury	59 days	88 days
Venus	243 days	225 days
Earth	24 hours	365 days
Mars	24 hours	687 days
Jupiter	10 hours	12 years
Saturn	10 hours and 40 minutes	29.5 years
Uranus	17 hours	84 years
Neptune	18 hours	165 years

Additional Resources:

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

Correlates with:

Greeting – Rotate, Rotate, Revolve

News and Announcements – Hemispheres and Seasons