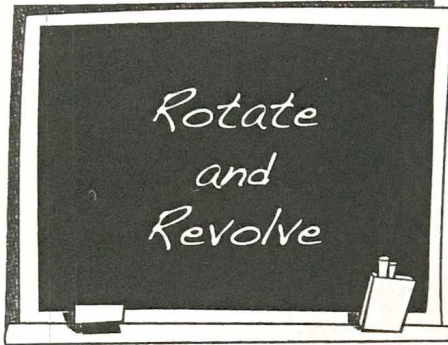


The Two Rs

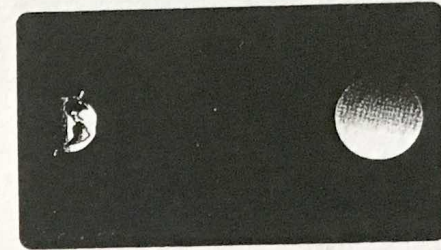


Different words are used to describe the motion of objects in space. Circle the answer that best describes the meaning of the words *rotate* and *revolve*.

- A** *rotate* means spin; *revolve* means spin
- B** *rotate* means spin; *revolve* means orbit
- C** *rotate* means orbit; *revolve* means orbit
- D** *rotate* means orbit; *revolve* means spin

Explain how these words describe Earth's motion. You may use a diagram to support your explanation.

Why Is It Warmer in Summer?



Many textbooks say that Earth's tilt causes the change of seasons. But *how* does the tilt cause the seasons to change? Put an X next to any of the statements you think can help to explain how the tilt of the Earth causes it to be warmer in the summer than in the winter.

- A** As the Earth circles the Sun, the direction of tilt relative to the plane of Earth's orbit gradually changes.
- B** The direction of Earth's axis always stays the same as we circle the Sun.
- C** When the Northern Hemisphere tilts toward the Sun we are closer to the Sun, so it is warmer.
- D** When the Northern Hemisphere tilts toward the Sun the days are longer, so there is more time for the Earth to warm up.
- E** When the Northern Hemisphere tilts toward the Sun then the Sun appears higher in the sky viewed from the United States, so sunlight is more concentrated and intense.
- F** The Earth's tilt causes the Sun to be directly overhead at noon in the summer when viewed from the United States.
- G** As the Earth circles the Sun it changes the angle of tilt during different seasons of the year, which then changes the amount of direct sunlight the Earth receives.

Explain your thinking on the back of this page. In your own words, describe how Earth's tilt relates to the change in seasons.

Which Is Bigger?



Ms. Moody gave her students a piece of paper with the names of five objects. She then asked the students to write numbers under the names to show their sizes. The directions were: Write a 1 under the name of the smallest object and a 5 under the name of the biggest object.

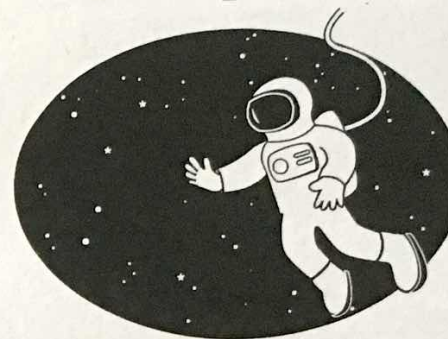
Moon Saturn Earth Star Sun

One of the students said, "This is not fair!" It's not possible to tell which is the biggest object!"

Do you agree, partially agree, or disagree with the student? _____

Explain how you would rank the size of these objects and why.

Human Space Travel



An American astronaut, Neil Armstrong, was the first person to walk on the Moon. He made his historic Moon walk in 1969. Several decades have passed since the Apollo astronauts walked on the Moon. What do you think is the farthest distance humans have traveled in space since the year 2000? Circle the answer you think best describes the farthest distance astronauts have traveled recently.

- A** into the upper part of Earth's atmosphere
- B** about a quarter of the way to the Moon
- C** about halfway to the Moon
- D** to the Moon
- E** slightly past the Moon
- F** halfway to Mars
- G** to Mars
- H** slightly past Mars
- I** almost halfway through our Solar System
- J** to a nearby star
- K** to another planetary system
- L** to another galaxy

Explain your thinking. How did you decide how far recent astronauts have traveled?
