Spin and Orbit

Compare the two motions that planets make.

4.5.a "planets rotate on their axes and revolve around the sun;"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline every sentence that contains a form of the word **rotate**, including **rotation**. Circle every sentence that contains a form of the word **revolve**, including **revolution**, so you can compare the two motions.

Earth on the Move

1. Earth is always moving, even when you are sitting still. One motion is rotation. Earth rotates, or spins, around an imaginary line called its axis. It takes about 24 hours for Earth to make one rotation. As Earth turns, the side facing the Sun has daylight, while the side facing away from the Sun has night. This change repeats each day.

2. Earth also travels around the Sun. This trip is called a revolution. Earth revolves along a curved path called an orbit. One complete revolution takes about 365 days, or one year. During that year, Earth continues to rotate many times. All planets rotate on axes and revolve around the Sun, but their rotation times and revolution times are not all the same.

3. Think of a playground top and a runner on a track. A top spinning in one spot is like a planet rotating on its axis. A runner moving around the track is like a planet revolving around the Sun. Earth does both motions at the same time. Rotation is the spin around an axis, and revolution is the trip around the Sun.

2 ANSWER WITH EVIDENCE

Use the passage

1. What does Earth rotate around?

2. What happens on Earth as it rotates?

3. How long does one complete revolution of Earth take?

4. How are rotation and revolution different?

3 YOUR TURN

Your own words

Invent a planet named Kora. In Panel 1, sketch Kora rotating on its axis and add an arrow to show its spin. In Panel 2, sketch Kora revolving around a Sun and add an arrow to show its path. Label both panels and write one sentence that explains the difference between the motions.

ANSWER KEY

Spin and Orbit

PART 1 · READ AND MARK

Underline every sentence that contains a form of the word **rotate**, including **rotation**. Circle every sentence that contains a form of the word **revolve**, including **revolution**, so you can compare the two motions. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What does Earth rotate around?	**Earth rotates around its axis, an imaginary line.**
2	What happens on Earth as it rotates?	**As Earth rotates, the side facing the Sun has daylight and the side facing away from the Sun has night.**
3	How long does one complete revolution of Earth take?	**One complete revolution takes about 365 days, or one year.**
4	How are rotation and revolution different?	**Rotation is a planet spinning around its axis. Revolution is a planet traveling around the Sun.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Panel 1: Kora rotating on its axis, with a curved arrow showing its spin. Panel 2: Kora revolving around a Sun, with an arrow showing its orbit. Kora rotates by spinning on its axis and revolves by traveling around the Sun.

Accept answers that distinguish spinning around an axis from traveling around the Sun. For the sketches, look for an axis and spin arrow in one panel, plus a Sun, an orbit path, and a travel arrow in the other panel.