

Name _____

Revolutions, Rotations, and Ridiculous Tilts Answer Key

1. Rotation is Earth spinning on its axis once every 24 hours, causing day and night. Revolution is Earth's movement around the Sun over the course of a year.
2. Earth's elliptical orbit means the distance to the Sun varies slightly, but this does not cause seasons-those are caused by the tilt of Earth's axis.
3. Because Earth takes 365.25 days to orbit the Sun, we add a leap day every four years to keep our calendar aligned.
4. The tilt causes different parts of Earth to receive more or less sunlight during different times of the year, creating the seasons.
5. Without axial tilt, seasons would largely disappear. Most places would have the same climate year-round, affecting nature and human life.
6. Equatorial regions receive fairly consistent sunlight all year, so they have less variation in temperature and daylight length.
7. The phrase “cosmic dance” is a metaphor that makes Earth's movements sound graceful and coordinated, helping readers visualize the regular patterns of rotation and revolution.
8. A tilt of 35 degrees would likely make seasons more extreme-hotter summers and colder winters-because the Sun's rays would hit at even more dramatic angles.