

Space

Lesson 4: Rotation and Revolution

Today's focus

I will be able to:





- Describe how the rotation of the Earth and the apparent movement of the Sun, Moon, and/or stars are related.
- Explain that Earth rotates on its axis in a 24 hr day
- Explain that Earth revolves around the Sun in one year.
- Identify that star patterns appear to shift across the night sky as Earth rotates on its axis.
- Identify that different star patterns can be seen during different seasons as Earth revolves around the Sun.

Bellringer

Jan and Michael were testing the effects of the color of light on plant growth. Which plants would be best for use as a control group?

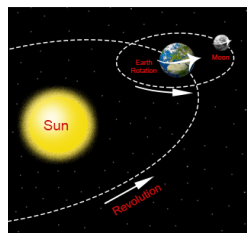
- a. plants growing in the dark
- b. plants growing under sunlight
- c. plants growing under ultraviolet light
- d. plants growing under fluorescent light

Brain Dump:

Rotate	Revolve
Spin or turn	Go around
	
Takes: 24 Hours / 1 Day	Takes: 365 Days / 1 Year
Causes: 	Causes: Seasons 

Engage:

What type of motion does Earth have as it moves in space? What questions do you have?



What is happening in this picture?
Discuss with your partner.

Space

Think About This!!!

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

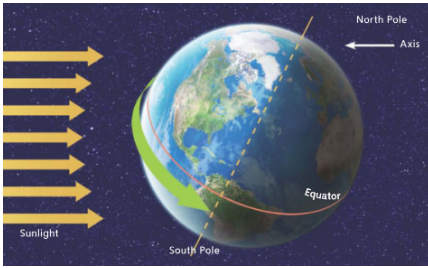
Explain how these words describe Earth's motion. You may use a diagram to support your explanation.

Observing the Movements of the Earth and the Moon

<u>Duration of Time: 24 Hours</u>	
<u>Duration of Time: 28 Days</u>	
<u>Duration of Time: 12 Months</u>	

Space

Earth's Rotation



A rotation is one complete spin of an object on its axis. Earth makes one rotation every day, or 24 hours. Living things do not feel these movements because they are moving with Earth. At any point in time, half of Earth's surface faces the Sun and is experiencing daytime. The other half of Earth's surface faces away from the Sun and is experiencing nighttime.

The tilt of Earth's axis affects the length of the day. If the axis were not tilted, day and night would always be twelve hours long every day. The tilt of Earth's axis explains why there are more hours of daylight during the summer and fewer hours of daylight during the winter.

At any given time, how much of the Earth is facing the Sun? _____

How long does it take the Earth to rotate on its axis? _____

How does the tilt of Earth's axis affect the number of hours of daylight during summer?

How does the tilt of Earth's axis affect the number of hours of daylight during winter?

Which of Earth's motions is being demonstrated in this animation?



The Earth is _____ or spinning on its axis.

The _____ is an imaginary line that runs through the middle of Earth from the North Pole to the South Pole.

The Earth's rotation causes _____ and _____.



Day and Night

_____ from the Sun is constantly coming into contact with the Earth.

The Earth is constantly rotating. It is _____ on the side of the Earth _____ the Sun and _____ on the side of the Earth _____ from the Sun.

Exit Ticket

How long does it take Earth to complete one rotation? _____

Earth's rotation causes what to happen? _____

Earth's tilt (axis) causes what to happen? _____