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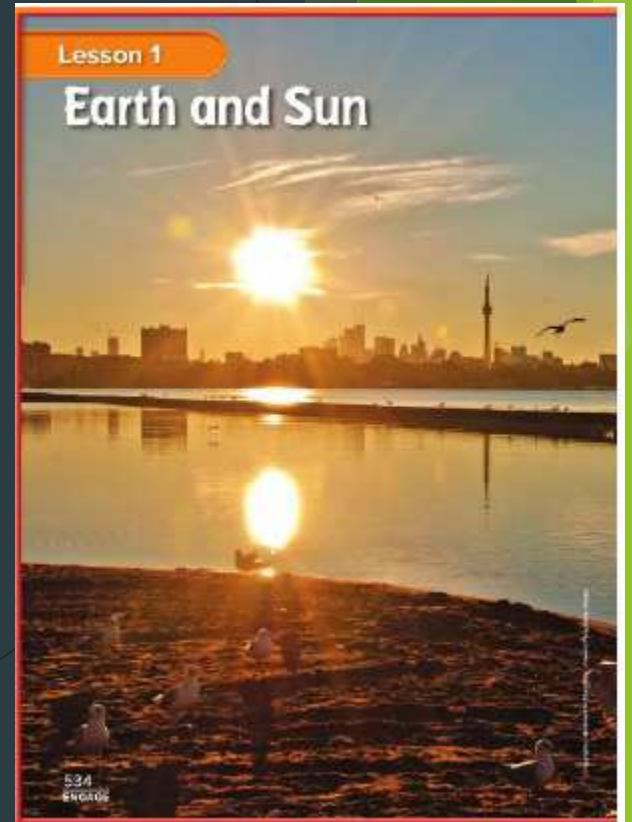
Chapter 11

The Solar System and Beyond Earth and the Sun

Week 1

Lesson 4

Review Lesson



Objective

We are reviewing the meaning of the words:

rotation, axis,
revolution, orbit

Success Criteria

At the end of the lesson
you will be able to explain
what these words mean
using models:

rotation, axis, revolution, orbit

Buddy Reading

Groups 1 and 2 Groups 3 and 4

Read and Respond

What causes day and night?

How can it be afternoon in North America and nighttime in Asia? The answer is that North America and Asia are on opposite sides of Earth. When one side of Earth faces the Sun, the opposite side is facing away from the Sun.

Earth Rotates

As Earth moves around the Sun, it also spins. **Rotation** (roh-TAY-shun) is the act of spinning. The diagram shows how Earth rotates.

The dotted line between the North Pole and the South Pole is Earth's axis (AK-sus). An **axis** is a real or imaginary line that an object spins around. Every day, Earth completes one rotation. One rotation takes 24 hours. We divide each hour into 60 minutes. Every minute has 60 seconds.

What causes seasons?

Not only does Earth rotate around its axis, it also revolves (rih-VAHLVZ) around the Sun. **Revolution** is when one object travels around another.

The path a revolving object takes is its orbit. Earth's orbit is shaped like an *ellipse* (ih-LIPS), or flattened circle. Earth's orbit around the Sun takes $365\frac{1}{4}$ days, or one year.

Earth's Tilted Axis

Earth's axis is not straight up and down. It is tilted at an angle of 23.5° . The tilt points in the same direction throughout Earth's orbit.

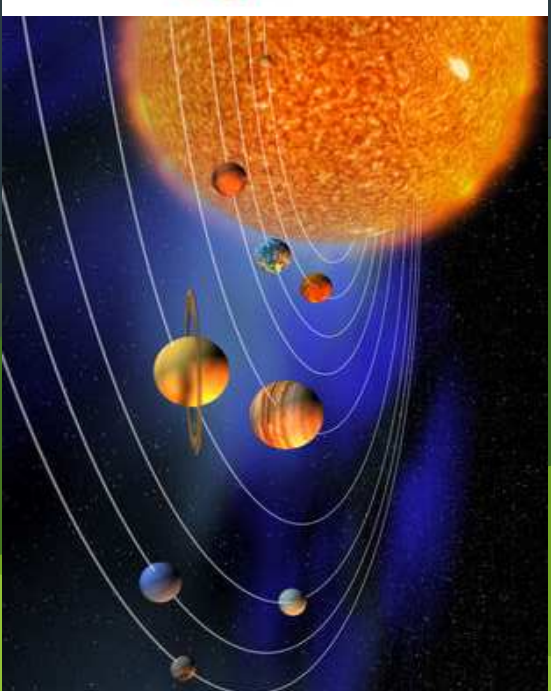
Earth's tilt causes sunlight to strike Earth at different angles. At any given time, each *hemisphere* (HE-muh-sfeer), or half, of Earth gets more or less sunlight. The seasons result from both Earth's tilted axis and its revolution around the Sun.



The Solar System and Beyond



What objects are in the solar system and beyond?



Essential Questions

Why does it seem that the Sun is moving?

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Vocabulary words

rotation # spin on axis



rotation the complete spin of an object around its axis

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Vocabulary words

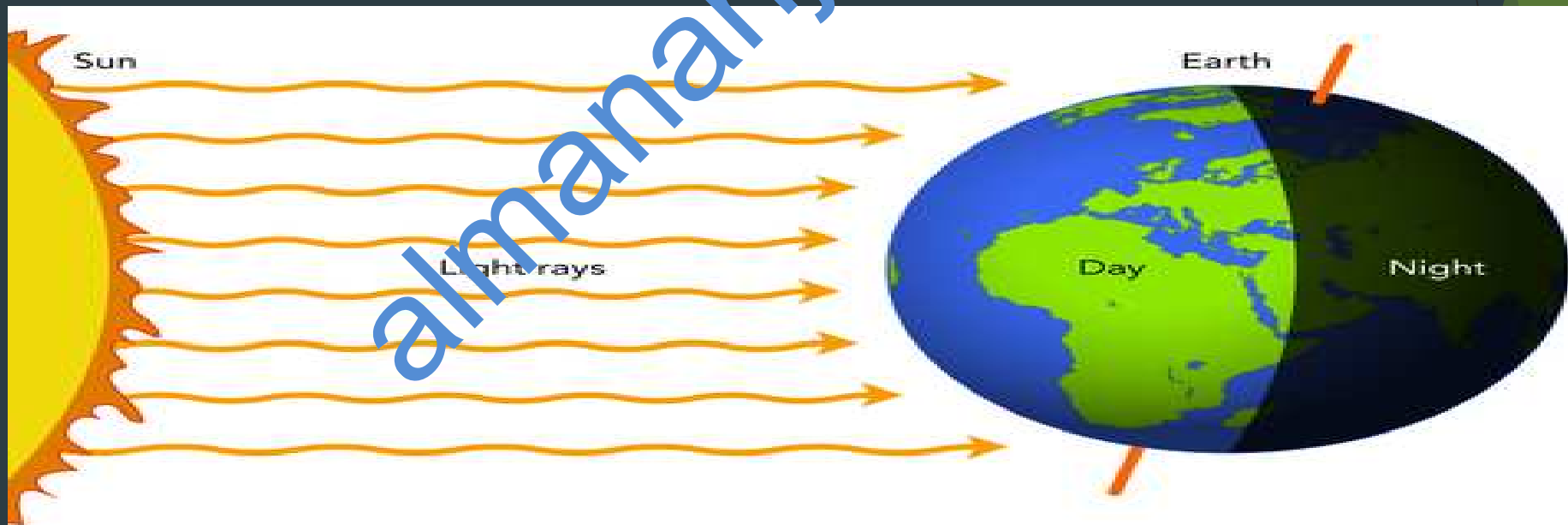
revolution # one complete trip around an object in a circle



revolution one complete trip around an object in a circular or nearly circular path

orbit # path taken during revolution

Using the diagram below can you explain how night and day happens? You can use clay or the models of the Earth and flashlight.



The Earth **rotates** on its axis and also **revolves** around the sun. The Earth takes about $365\frac{1}{4}$ days (one year) to **Orbit** the sun.

The Earth's tilted axis causes the seasons to happen.



Collaboration time



Work in your groups and discuss the answers to the questions on page 545.

Plenary

Let's see what you have remembered
Write the answers on
the paper given.

1) Every 24 hours the Earth
completes one _____



Vocabulary

Fill each blank with the best term from the list.

comet

crater

gravity

lunar eclipse

meteor

phase

planet

revolution

rotation

star

Plenary

Let's see what you have remembered.
Write the answers on the paper given.



1) Every year the Earth completes one
around the sun.

Vocabulary

Fill each blank with the best term from the list.

comet

crater

gravity

lunar eclipse

meteor

phase

planet

revolution

rotation

star

Plenary

Let's see what you have remembered.

2) What process takes 24 hours to complete:

- A) rotation
- B) Revolution
- C) Shadows
- D) Seasons



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Plenary

Let's see what you have remembered.

4) We see the sun rise and set because:

A) the Earth revolves around the sun.

B) the Earth rotates on its axis.

C) the sun revolves around the Earth.

D) the moon revolves around the Earth.



Plenary

5) Your shadow is short when you go outside.
What time of day is it?

A) early morning.

B) late afternoon

C) after sunset

D) near noon



Plenary

2) What causes the Earth's changing seasons?

A) Earth's rotation around the sun.

B) The sun's rotation around the Earth,

C) Earth's tilted axis and revolution around the sun.

D) Earth's rotation and the moon's revolution around Earth.



Plenary

Let's see what you have remembered.

The picture shows the Earth. The dark part is night time for the people living there. The bright part is day time for the people living there.



During day time where does the light come from?

- A. From inside the Earth
- B. From the air
- C. From the Sun
- D. From the clouds

3)

Plenary

When does the sun rise the highest in the sky in the Northern Hemisphere?

- A) March
- B) June
- C) September
- D) December