🌍 Lesson Plan: Earth in Space

Grade Level: 3
Subject: Earth Science
Duration: 45–60 min
SD1: Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.

🎯 Learning Objectives

By the end of this lesson, students will be able to:

- **Distinguish** between Earth's rotation and revolution and explain how they cause day, night, and years
- **Explain** the causes of the four seasons due to Earth's tilt and orbit

- Earth in Space Study Guide (https://newpathworksheets.com/api/guide/study-guide-science-grade-3-earth-in-space.pdf)
- Earth in Space Basics Worksheet (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-0.pdf)
- Seasons and Moon Phases Worksheet (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-1.pdf)

- Earth in Space Assessment (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-2.pdf)
- Vocabulary Matching Worksheet (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-earth-in-space-1.pdf)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Engage students by asking: "Why is it dark at night but bright during the day? Does the sun move, or do we?"
- Show images of the Earth, Sun, and Moon from the Study Guide to set the scene. (https://newpathworksheets.com/api/guide/study-guide-science-grade-3-earth-in-space.pdf)

- Students complete the Earth in Space Basics worksheet, identifying the sun as a star and the length of rotation. (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-0.pdf)
- Students complete the Seasons and Moon Phases worksheet to reinforce the concept of tilt and lunar cycles. (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-1.pdf)

Step 5: Assessment (10 minutes)

- Administer the Earth in Space Quiz to evaluate understanding of eclipses, constellations, and moon phases. (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-2.pdf)
- Review answers as a class to clarify any remaining misconceptions about eclipses or seasonal changes.

Differentiation Strategies

For advanced learners:

- Challenge students to research a specific constellation and draw its pattern.
- Ask students to explain why we only see one side of the moon.

For learners needing support:

- Use a flashlight and ball to physically model day and night for students needing visual aid.

- Worksheet 0 PDF (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-0.pdf)
- Worksheet 1 PDF (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-1.pdf)
- Worksheet 2 PDF (https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-earth-in-space-2.pdf)
- Vocabulary PDF (https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-earth-in-space-1.pdf)

EARTH IN SPACE

The Sun, which is a star, is Earth's source of heat and light.

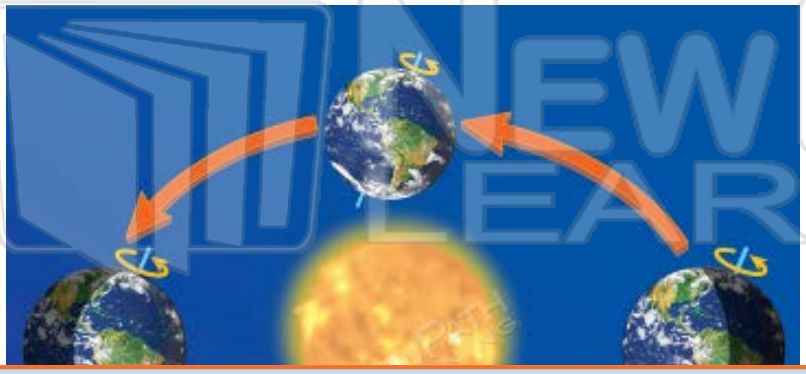
It takes the Earth 24 hours to turn or rotate completely one time. The Earth's **rotation** every 24 hours results in day and night on Earth. While the Earth rotates, half of the Earth faces the sun, experiencing day, while the other half is in darkness, experiencing night. The Earth rotates at the very SAME speed every day for each of the 24 hours it takes Earth to rotate once completely.

The Earth rotates on its axis. An **axis** is an imaginary straight line running through the center of the earth, from the North Pole to the South Pole, around which the earth rotates.

The Earth also travels in a circle around the Sun. The Earth's path around the Sun is called its **orbit**. When is travels around its circle or orbit one time, we all it a **revolution**. This is how we measure one year.

Earth's Seasons

The Earth's revolutions have to do with its seasons. As the Earth rotates on its axis and circles the sun, different parts of Earth are closer to the Sun than others. How much heat and light we get on planet Earth depends on how close Earth is to the Sun.



the shortest amount of daylight and the summer days have the longest.

Lesson Checkpoint:
How long does it take the moon to make one revolution of its orbit?

The Moon

The moon goes through different phases about every 4 weeks:

When the moon is between the Earth and the Sun, the moon looks dark.

It's time for a **FULL moon**. When the sun and moon are on opposite sides of the Earth, the moon appears full, because the sun is reflecting its light completely on the half of the moon that we can see on Earth.

The moon's **waning gibbous** phase comes right after the full moon phase, this is when the moon is between a full moon and a half moon.

surface can be seen from Earth.

A **constellation** is a group of stars that make a pattern in the night sky.

Lesson Checkpoint:
Is a waxing moon growing or shrinking?

Earth in space

Sci C

Name_____ Class_____ Date_____

1 The **sun**, which is a(n) _____, is earth's source of heat and light.

A asteroid
B solar system
C star
D planet

2 How long does it take earth to **rotate** completely one time?

A 24 hours
B 12 hours
C 48 hours
D 72 hours

3 What does the **earth's rotation** every 24 hours result in?

A summer
B day and night
C winter

4 A(n) _____ is an **imaginary straight line** running through the center of the earth, from the North Pole to the South Pole, around which the earth rotates.

5

C axis
D revolution

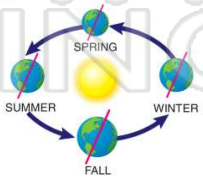
7

9 As the earth rotates on its axis and circles the sun, the parts of the earth that _____ receive **more** heat and light.

A become bigger
B become smaller
C tilt closer to the sun
D tilt away from the sun

10 The **seasons** are determined by how the earth _____ on its **axis** and where it is during its revolution around the sun.

A is tilted
B speeds up
C slows down
D is dark



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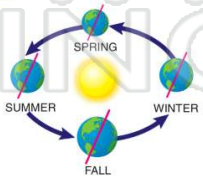

A

Earth in space

Sci C

Name_____ Class_____ Date_____

1 During what **season** in the Northern Hemisphere is the earth actually **closest** to the sun?

A winter
B spring
C summer
D fall

2 What season is it in the **Northern** Hemisphere when the **Southern** Hemisphere is pointing **toward** the sun?

A fall
B spring
C summer
D winter

3 Even though every earth day is 24 hours long, no matter what season it is, **winter** days have the _____ amount of daylight and the summer days have the longest.

4 During what season in the Northern Hemisphere does the Northern Hemisphere **start to lean towards the sun** on the earth's axis, which causes the weather to get warmer?

5

PREVIEW

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7

C different landforms
D humidity

D 8

9 When the sun and moon are on opposite sides of the earth, the **moon** appears _____, because the sun is reflecting light completely on the side of the moon which we see on earth.

A a quarter of its size
B half its size
C like a sliver
D full

10 When the moon is between the earth and the sun, the moon looks **dark**. This phase is called the "new" moon. When does a **new moon** occur?

A when the moon does not rise at night
B when the sun and moon are very close in the sky
C when the sun and moon are far apart in the sky

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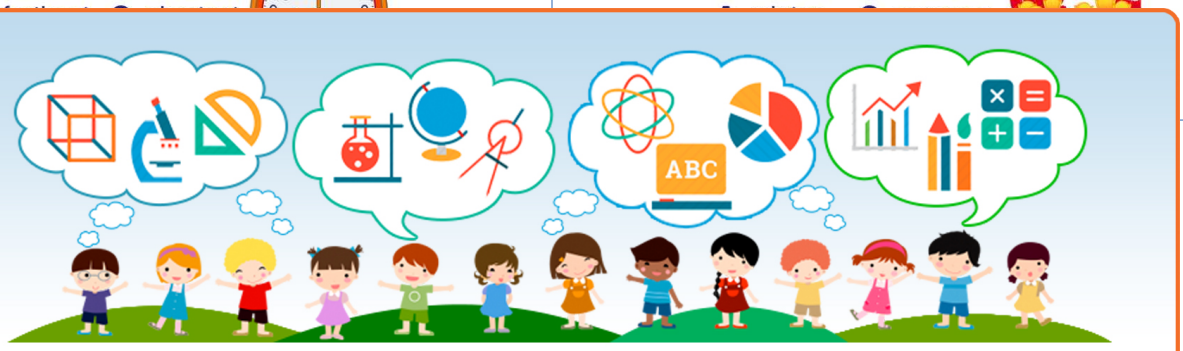

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Earth in space

Sci C

Name_____ Class_____ Date_____

1 _____ means growing. The moon can be described as this when it becomes **more visible** from earth during certain moon phases.

A Waxing
B Waning
C Withering
D Wilting

2 _____ means shrinking. The moon can be described as this when it becomes **less visible** from earth during certain moon phases.

A Waxing
B Waning
C Weathering
D Winking

3 During the _____ phase of the moon, only a **sliver** of the moon's surface can be seen from earth.

A new moon
B full moon
C waxing or waning

4 The _____ **phase of the moon** is when the moon looks half full.

A first or last quarter
B new moon
C half moon

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5

7

C the moon
D Mercury

D A star

9 What do we call a group of stars that make a **pattern** in the night sky?

A a milky way
B a cluster
C a constellation
D a meteor shower

10 What is the name of this popular **constellation**?

A Orion's Belt
B The Bear
C The Big Dipper
D The Spoon

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Name_____ Class_____ Date_____

Match each of the following terms to its definition:

Revolution	Constellation	Waxing moon
Axis	Waning moon	

1. - an imaginary straight line running through the center of the earth, from the North Pole to the South Pole, around which the Earth rotates

2. - a group of stars that make a pattern in the night sky

3. which

4. portio

5. - a phase of the Moon when the sunlit portion of the Moon is getting larger

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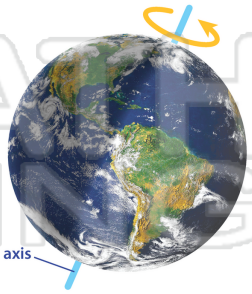

2. constellation - a group of stars that make a pattern in the night sky

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5. waxing moon - a phase of the Moon when the sunlit portion of the Moon is getting larger