



Republic of the Philippines
Department of Education
NATIONAL CAPITAL REGION
Misamis Street, Bago-Bantay, Quezon City

UNIFIED SUPPLEMENTARY LEARNING MATERIALS (USLeM)



Science 6 Week 4

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EARTH'S ROTATION AND REVOLUTION

Expectations

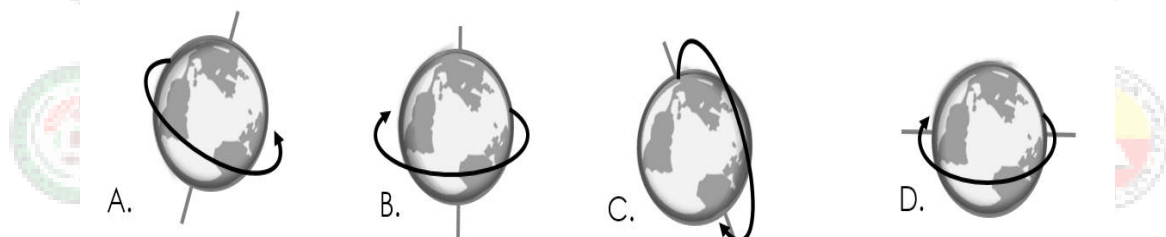
This Unified Supplementary Learning Material will help you to:

- illustrate rotation and revolution of the Earth; and
- differentiate between rotation and revolution of the Earth.

Pre-Test

DIRECTIONS: Encircle the letter of the **best** answer.

1. Which figure illustrates the rotation of the Earth?

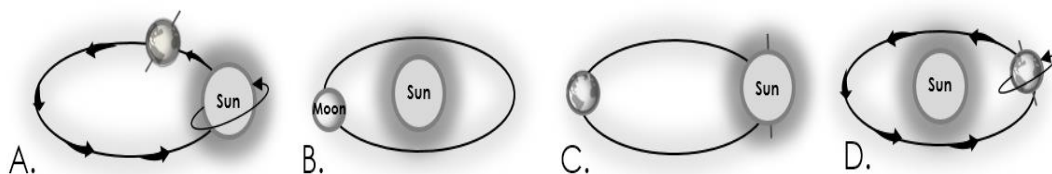


Illustrated by Karen F. De Vera

2. Which statement **best** describes the Earth's revolution?

- A. It spins on its axis.
- B. It orbits around the moon.
- C. It moves on its axis within 24 hours.
- D. It revolves around the Sun within 365 $\frac{1}{4}$ days.

3. Which of these **correctly** shows how the Earth revolves around the Sun?



Illustrated by Karen F. De Vera

4. Which statement is **true**?

- A. The Earth completes one rotation in 365 days.
- B. The Sun revolves around the Earth while it is rotating.
- C. The Earth rotates once a month as it revolves around the Sun.
- D. The Earth rotates on its own axis as it revolves around the Sun.

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5. How many days does the Earth take to complete its revolution?

- A. 365
B. $365 \frac{3}{4}$
C. $365 \frac{1}{4}$
D. $364 \frac{1}{4}$

Looking Back

DIRECTIONS: Write **True** if the statement is **correct** and change the underlined word if it is **incorrect**.

- _____ 1. Dry season has hot and humid days.
_____ 2. Fishing activity is common during the wet season.
_____ 3. During the rainy season, the Philippines experiences heavy rainfall.
_____ 4. Southwest Monsoon or *Hanging Habagat* influences the wet season in the Philippines.
_____ 5. Northeast Monsoon or *Hanging Amihan* results to very little rainfall from December to May.

Brief Introduction

The Philippines has two seasons, namely: wet and dry seasons. The prevailing winds, Northeast Monsoon or *Hanging Amihan* and Southwest Monsoon or *Hanging Habagat* influence these seasons. Seasons change due to the Earth's motion.

Everyday, the Sun appears to rise in the east, and sets in the west. This is due to the direction of the movement of the Earth from west to east or counterclockwise. This movement of the Earth on its axis is called **rotation** as shown in *Figure 1*. The Earth is spinning once every 23 hours and 56 minutes or approximately 24 hours.

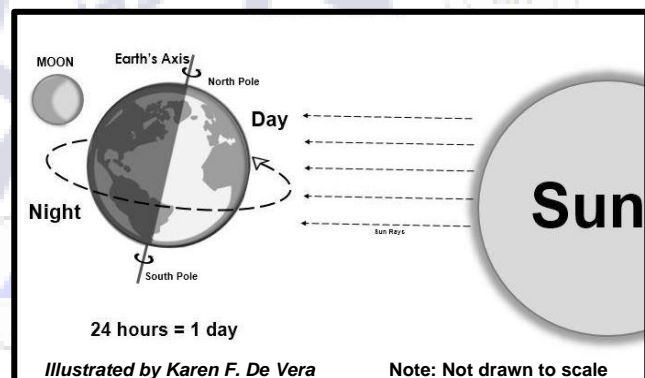


Figure 1. Earth's Rotation

Meanwhile, the Earth's movement around the Sun is called **revolution**. The Earth travels around the Sun in an elliptical path or orbit in a counterclockwise direction as shown in *Figure 2*. It takes $365 \frac{1}{4}$ days for the Earth to complete one revolution.

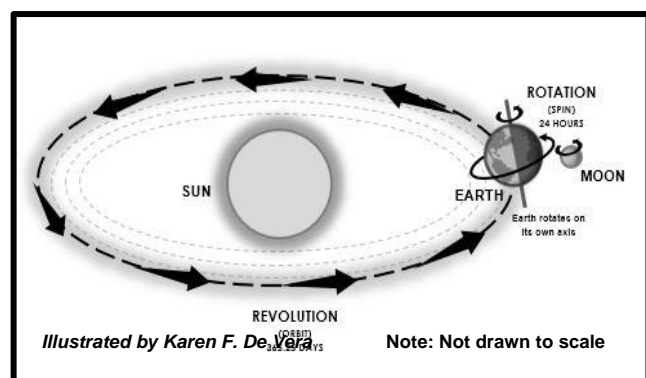


Figure 2. Earth's Revolution

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Activities

Activity 1: Simulate Me!

DIRECTIONS: Work with a family member. You will act as the Earth and your partner as the Sun.

What to Do:

Step 1: Mark your initial position. Then, slowly walk in your place to show the Earth's rotation as shown in *Figure 3*.

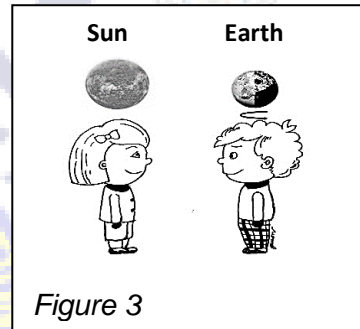


Figure 3

Illustrated by Jaison Dayacus

Step 2: Your partner stays in place while you slowly walk around him/her in a counterclockwise direction as shown in *Figure 4*.

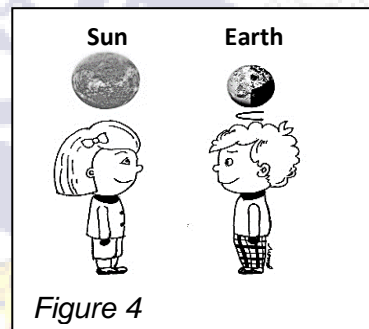


Figure 4

Illustrated by Jaison Dayacus

Questions

1. What was simulated in Step 1?
2. How will you describe the Earth's rotation?
3. How long does it take the Earth to complete one rotation?
4. What was simulated in step 2?
5. How will you describe the Earth's revolution?
6. How long does it take the Earth to complete one revolution?

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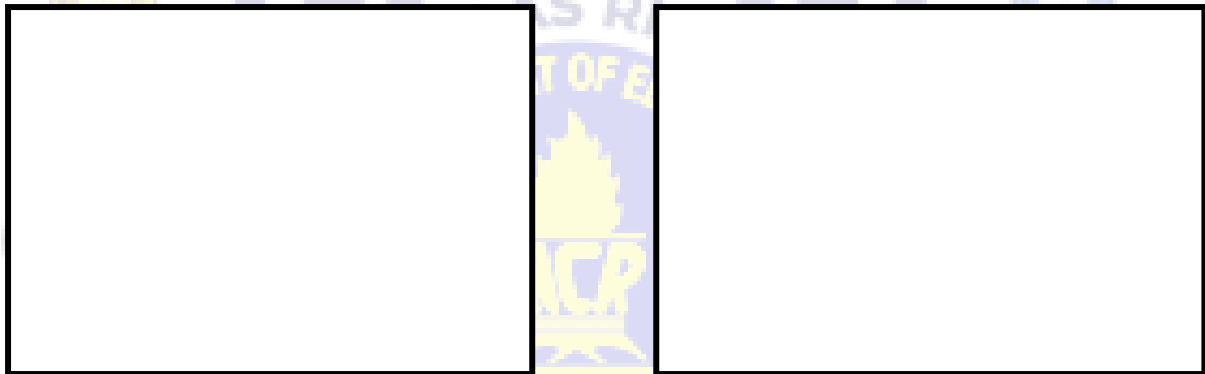
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Activity 2: Draw Me!

DIRECTIONS: Illustrate the two motions of the Earth inside Box A and B.
Follow procedures 1 to 3.

What to do:

1. Draw inside Box A the Earth's rotation and its revolution inside Box B.
2. Use a 1-peso coin to draw the Sun and a 25 centavo coin to draw the Earth.
3. Put arrows around the image of the Earth inside each box to illustrate its rotation and its revolution.



Box A

Box B

Questions

1. On what imaginary line does the Earth move in Box A? in Box B?
2. What direction do the arrows take in illustration A? illustration B?
3. What do the arrows represent?
4. What is the difference between rotation and revolution?

Activity 3: Movement of the Earth

PART A.

DIRECTIONS: Identify what is referred to in the given statements.

- _____ 1. The direction of the Earth's rotation.
- _____ 2. The Earth's movement on its own axis.
- _____ 3. The Earth's movement around the Sun.
- _____ 4. A point where the Earth spins or rotates.
- _____ 5. An imaginary line where the Earth revolves.

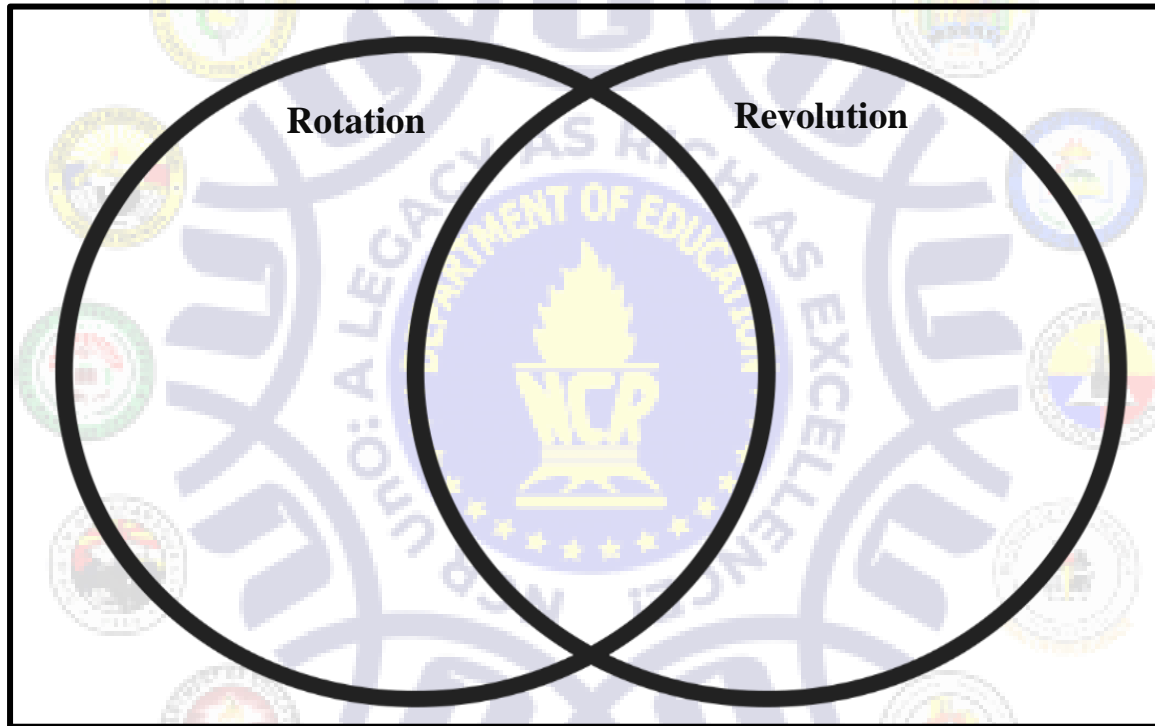
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PART B:

DIRECTIONS: Complete the Venn diagram using the keyword or phrase below.

axis	orbit	counterclockwise
23 hours and 56 minutes		365 $\frac{1}{4}$ days



Remember

- The Earth has two distinct movements, namely: rotation and revolution.
- It rotates or spins around its axis once every 23 hours and 56 minutes or approximately 24 hours.
- Its revolution around the Sun takes 365 $\frac{1}{4}$ days.

Checking Your Understanding

DIRECTIONS: Write **True** if the statement is **correct** and change the underlined word if it is **incorrect**.

- _____ 1. The word revolution describes the movement of the Earth on its orbit.
- _____ 2. The Earth's rotation on its axis takes 23 hours and 56 minutes.
- _____ 3. The rotation of the Earth around the Sun takes 365 $\frac{1}{4}$ days.
- _____ 4. The Earth rotates in a counterclockwise direction.
- _____ 5. The Earth rotates around the Sun.

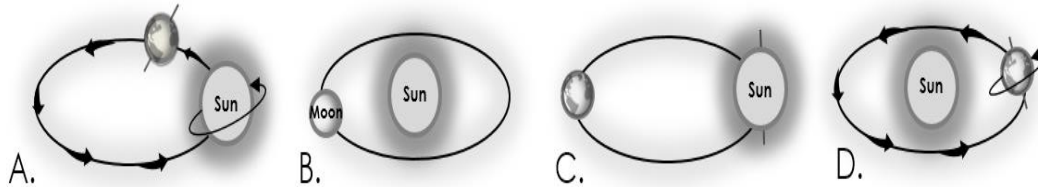
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Post-Test

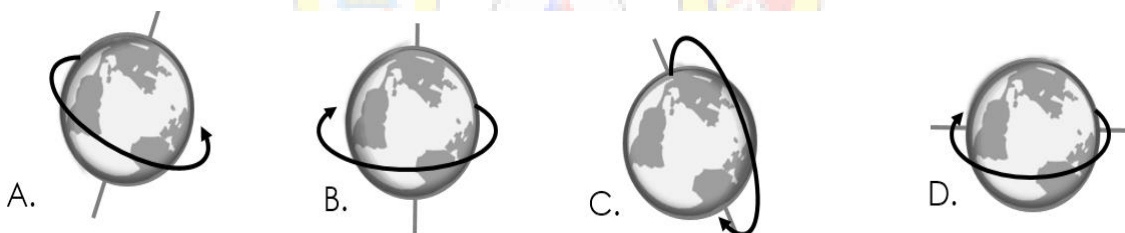
DIRECTIONS: Encircle the letter of the **best** answer.

1. Which illustration **correctly** shows how the Earth revolves around the Sun?



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2. Which statement describes the rotation of the Earth?
- A. The rotation of the Earth takes $365 \frac{1}{4}$ days.
 - B. Rotation is the movement of the Earth on its own axis.
 - C. Rotation is the movement of the Earth around the Sun.
 - D. The Earth's rotation takes place when the Sun spins on its own axis.
3. Which statement is **true**?
- A. The Sun revolves and rotates around the Earth.
 - B. The Earth completes one rotation in $365 \frac{1}{4}$ days.
 - C. The Earth rotates once a month as it revolves around the Sun.
 - D. The Earth rotates on its own axis as it revolves around the Sun.
4. How long does it take for the Earth to move on its own axis?
- A. 6 hours and 56 minutes
 - B. 12 hours and 56 minutes
 - C. 18 hours and 56 minutes
 - D. 23 hours and 56 minutes
5. Which figure illustrates the rotation of the Earth?



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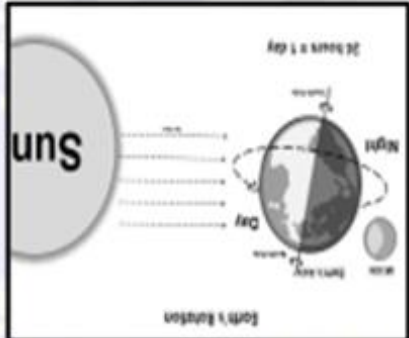
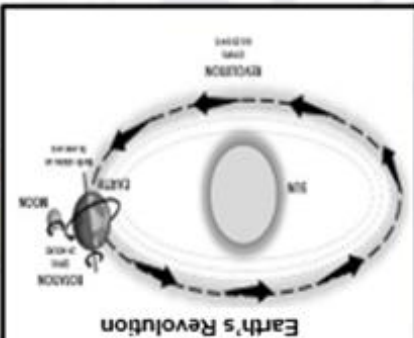
Reference

Sarte, Evelyn T. et al. (2016) Science Beyond Borders 6. Vibal Group Inc. 1253 G Araneta Ave. Quezon City.

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Answer Key

<p>Pre – Test</p> <p>1. A 2. D 3. D 4. D 5. C</p>	<p>Looking Back</p> <p>1. T 2. F – Dry Season 3. T 4. T 5. T</p>
<p>Activity 1</p> <ol style="list-style-type: none"> The rotation of the Earth. The rotation is the movement of the Earth on its own axis. It takes 23 hours and 56 minutes to complete one rotation. The revolution of the Earth. Revolution is the movement of the Earth around the Sun. It takes 365 ¼ days to complete one revolution. 	<p>Activity 2</p> <ol style="list-style-type: none"> Box A – The axis. Box B – The orbit. The direction of the arrows is from west to east direction/ counterclockwise. The direction of the arrows is counterclockwise/ west to east direction. Arrows represents the movement of the Earth on its own axis and the movement of the Earth on its orbit.
<p>Box A</p>  <p>Box B</p> 	<p>Activity 3</p> <p>Part A:</p> <ol style="list-style-type: none"> Axis West to East/ 5. Orbit Counterclockwise Direction Rotation <p>Part B:</p> <p>23 hours and 56 minutes</p> <p>Axis</p> <p>Counterclockwise</p> <p>Orbit</p> <p>365 ¼ days</p> <p>Revolution</p>