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UNIFIED SUPPLEMENTARY LEARNING MATERIALS
(USLeM)

SCIENCE 6 WEEK 6

Development & Editorial Team

Writers:	Mr. Remegio B. Atregenio Ms. Bebeth Agnes B. Necesito
Illustrators:	Mr. Mark Alvin D. Asis
Layout Artists:	Mr. Remegio B. Atregenio Dr. Normina B. Hadji Yunnos
Content Editors:	Dr. Maripaz T. Mendoza Dr. Efren E. Canzana Ms. Gerla L. Mateo Ms. Rubby Ann C. Camu Mr. Roni P. Sapad
Language Editors:	Ms. Ivy Joy C. Oxiño Ms. Ma. France T. Nuñez
Management Team:	Dr. Malcom S. Garma, Regional Director - NCR Dr. Loreta B. Torrecampo, CESO V, SDS - SDO, Pasay City Dr. Arturo A. Tolentino, OIC ASDS- SDO, Pasay City Dr. Genia V. Santos, CLMD Chief - NCR Mr. Librado F. Torres, CID Chief - SDO, Pasay City Ms. Micah G. Pacheco, EPS Science - NCR Mr. Dennis M. Mendoza, LR EPS – NCR Ms. Nancy C. Mabunga, Librarian - NCR Dr. Maripaz T. Mendoza, EPS-Science – SDO, Pasay City Dr. Efren E. Canzana, PSDS – SDO, Pasay City Dr. Normina B. Hadji Yunnos, LR EPS – SDO, Pasay City

THE SOLAR SYSTEM

Expectations

This Unified Supplementary Learning Material will help you to:

- identify the planets in the solar system;
- describe the planets according to their observable characteristics and distance from the Sun; and
- compare the planets of the solar system.

Pre-test

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

1. Which statement **best** describes the planets?

   A. They are made of gases.
   B. They are bright and light.
   C. They move around the Sun.
   D. They possess a life-sustaining atmosphere.

2.Which among the planets below is the largest in the solar system?

   A. Earth B. Jupiter C. Saturn D. Venus

3. Which statement **best** describes Mars?

   A. It is a gaseous or Jovian planet. C. It is considered as the Red Planet.
   B. It is the closest planet from the Sun. D. It has the elements as that of Jupiter.

4. Which planet is closest to the Sun?

   A. Earth B. Mars C. Mercury D. Neptune

5. Which statement is **correct**?

   I. Mercury, Venus, Earth, and Mars are terrestrial planets.
   II. Jupiter, Saturn, Uranus, and Neptune are Jovian planets.
   III. Saturn, Uranus, Neptune, and Venus are terrestrial planets.
   IV. Jupiter, Saturn, Uranus, and Neptune are terrestrial planets.

   A. I only B. I and II C. I, II and III D. I, II, III and IV

Looking Back

DIRECTIONS: Identify whether the following is an effect of Earth's **rotation** or **revolution**.

1. Change in season _____
2. Summer on March 21 _____
3. Occurrence of day and night _____
4. Apparent movement of the Sun _____
5. Unequal length of day and night _____

Brief Introduction

Aside from the Moon and the Sun, there are also other celestial bodies moving in the outer space which includes the planets. There are eight planets in the solar system moving constantly around the Sun at different rates. They vary in size, color, composition, and distance from the Sun.

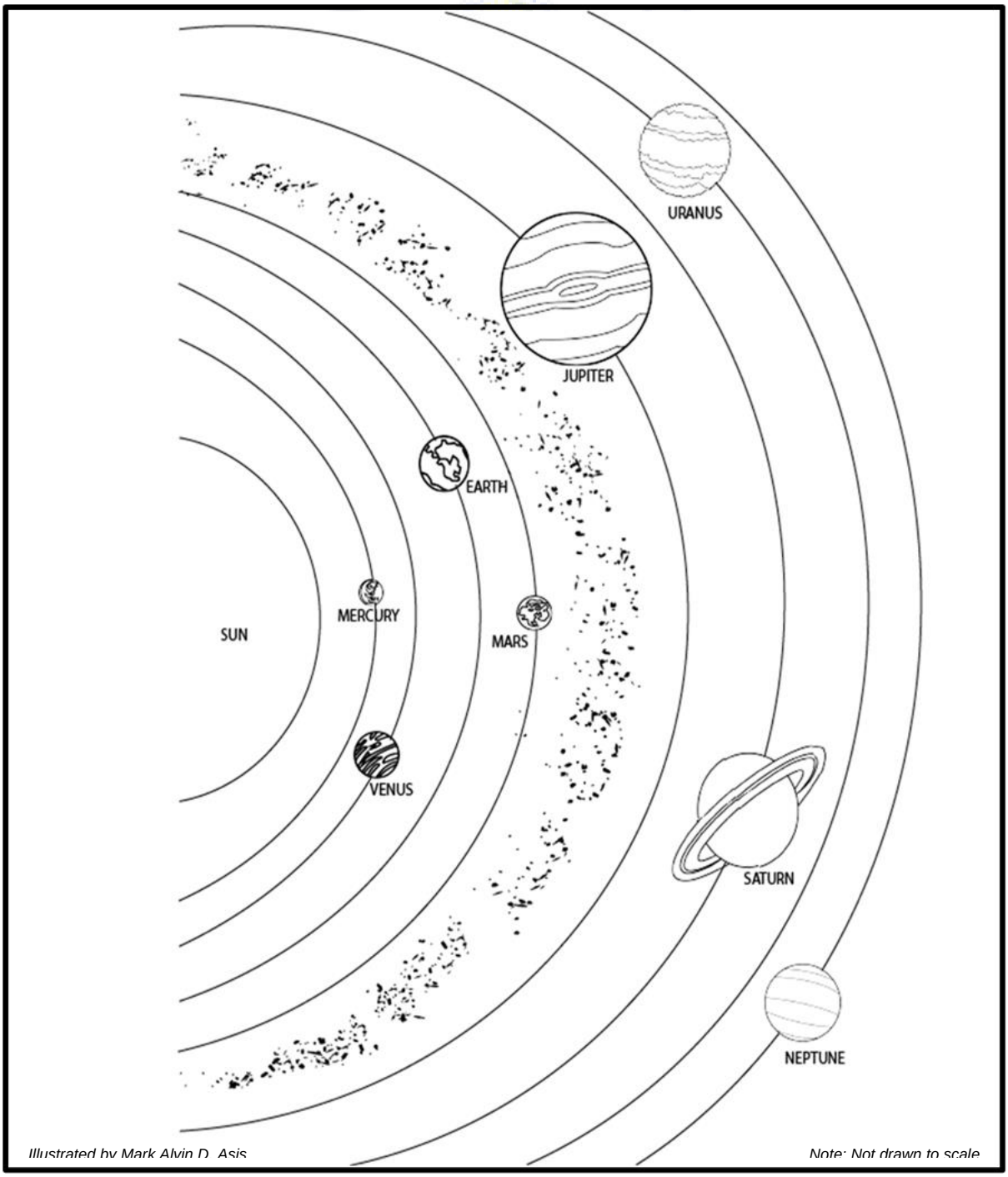


Figure 1. Model of the Solar System

Classification of Planets

Terrestrial planets are the first four planets from the Sun, namely: Mercury, Venus, Earth, and Mars. They are also known as the inner planets. They are made up mostly of rocks or metals.

Mercury is the closest planet to the Sun. It has an approximate average distance of 58 million km from the Sun. It is grey and has an equatorial diameter of 4880 km.

Venus is the second planet from the Sun with an approximate distance of 108 million km. Having a color of grey and brown, it appears to be the brightest object in the sky aside from the Sun and Moon. Its average equatorial diameter is 12,104 km. It is considered the Earth's twin planet.

Earth is the only habitable planet for it has abundant liquid water and an atmosphere that supports life. It is a Blue Planet with an approximate distance of 149 million km from the Sun. It has an average equatorial diameter of 12,742 km.

Mars is known as the Red Planet with an equatorial diameter of 6788 km. It has an approximate average distance of 227 million km from the Sun.

Jovian planets, on the other hand**,** are known as gaseous or outer planets which are made up mostly of helium and hydrogen.

Jupiter is the biggest planet in the solar system with an equatorial diameter of 142,984 km. It is more than 11 times the size of the Earth. Its color is brown and orange and has an approximate average distance of 774 million km from the Sun.

Saturn is the second largest planet with an equatorial diameter of 120,536 km making it 9.5 times larger than the size of the Earth. It is golden brown and with an approximate average distance of 1.4 billion km from the Sun.

Uranus, having an equatorial diameter of 51,118 km, ranks as the third largest planet in the solar system. It is blue green and has an approximate average distance of 2.9 billion km from the Sun.

Neptune has an equatorial diameter of 49,532 km. Neptune and Uranus are called twin planets because they have about the same color, size, and mass. Its approximate average distance is 4.5 billion km from the Sun.

An asteroid belt between Mars and Jupiter separates the inner planets and outer planets as shown in Figure 1.

Activities

Activity 1: Name It!

DIRECTIONS: Identify the planet being described. Write the answer on the space provided before each number.

_____ 1. The second closest planet from the Sun and is often called the Morning and Evening Star.

_____ 2. The nearest planet from the Sun with an approximate average distance of 58 million km and an equatorial diameter of 4,880 km.

_____ 3. The sixth planet from the Sun with an approximate average distance of 1.4 billion km and an equatorial diameter of 120,536 km.

_____ 4. The only habitable planet in the solar system and known as the Blue Planet. It is about 149 million km from the Sun.

_____ 5. It is the biggest planet in the solar system. It is about 774 million km from the Sun.

_____ 6. It is also known as the Red Planet because of the iron oxide present on its surface.

_____ 7. The twin planet of the Uranus in terms of size and mass. Its approximate average distance is 4.5 billion km from the Sun.

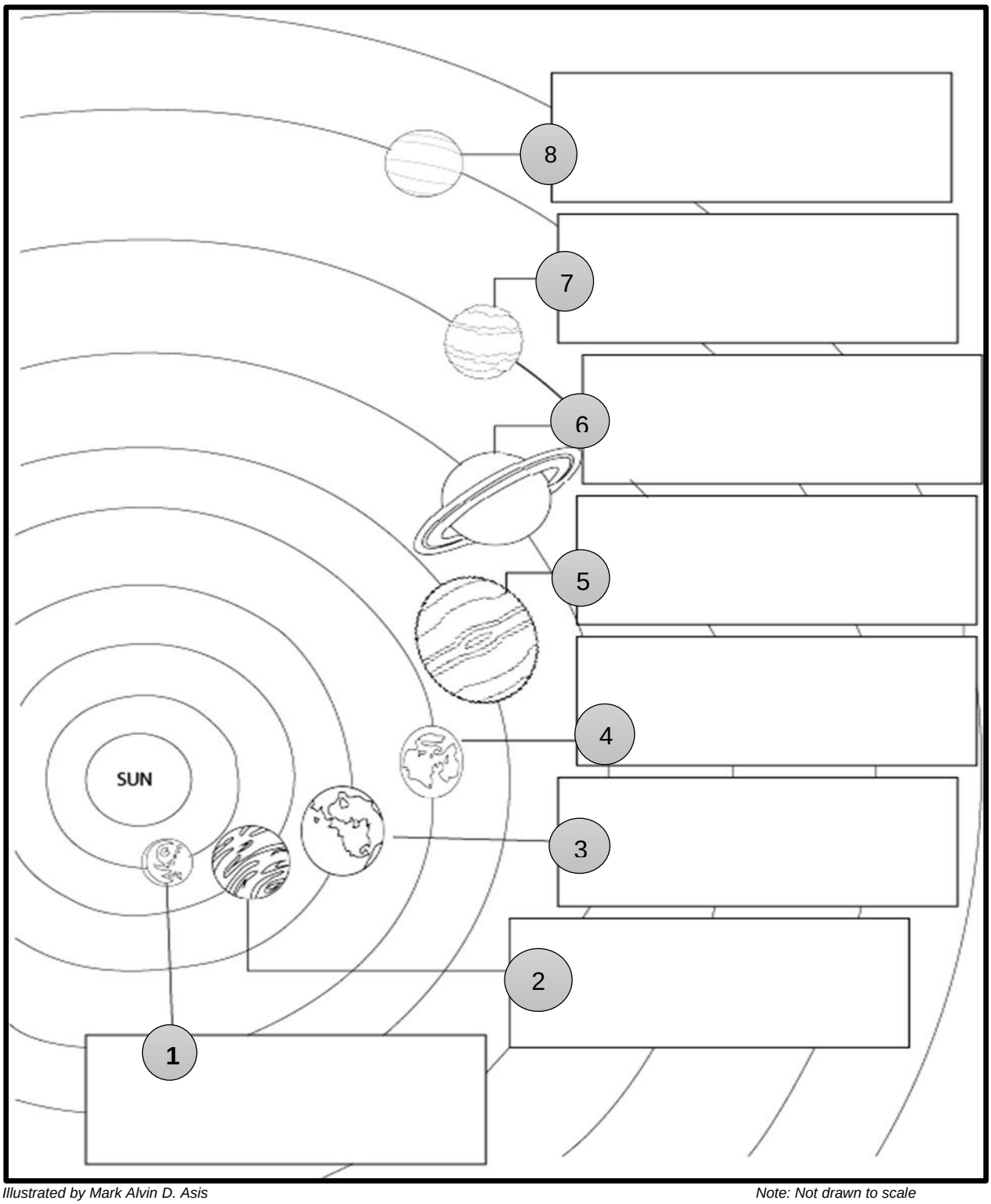
_____ 8. It has an approximate average distance of 2.9 billion km from the Sun. The color is blue-green and with an equatorial diameter of 51,118 km.

_____ 9. A term used to describe Mercury, Venus, Earth, and Mars aside from inner planets.

_____ 10. The gaseous planets in the solar system made up mostly of helium and hydrogen.

Activity 2: Describe Me

DIRECTIONS: Name and describe the planets. Write your answers inside the box.



Illustrated by Mark Alvin D. Asis *Note: Not drawn to scale*

Activity 3. Complete Me

DIRECTIONS: Complete the table with the names and descriptions of each planet. Use the facts given inside the information box.

Planet	Classification (Terrestrial/Jovian)	Approximate Average Distance from the Sun (km)	Average Equatorial Diameter (km)
Earth			
Jupiter			
Mars			
Mercury			
Neptune			
Saturn			
Uranus			
Venus			

Information Box

Approximate Average Distance from the Sun (km)	Average Equatorial Diameter (km)
58 million	4,880
1.4 billion	6,788
2.9 billion	12,104
108 million	49,532
4.5 billion	120,536
774 million	142,984
227 million	12,742
149 million	51,118

Remember

- Planets vary in size, color, composition, and distance from the Sun.
- They are classified into Terrestrial and Jovian planets.
- Terrestrial planets or rocky planets are considered the inner planets. These are closest to the Sun, namely: Mercury, Venus, Earth, and Mars. They are made mostly of rocks or metals.
- Jovian or outer planets, on the other hand, are the planets that are farthest from the Sun, namely: Jupiter, Saturn, Uranus, and Neptune. They are also referred to as the giant planets and are made up of helium and hydrogen.

Checking Your Understanding

DIRECTIONS: Match the descriptions in Column A with the planets in Column B.

Column A		Column B	
___ 1.	A Jovian planet with 120,536 km average equatorial diameter and an approximate average distance of 1.4 billion km from the Sun.	A.	Earth
___ 2.	The only habitable planet and is also referred to as the Blue Planet.	B.	Jupiter
___ 3.	A Jovian planet with an approximate average distance of 774 million km from the Sun and with an equatorial diameter of 142,984 km.	C.	Mars
___ 4.	A terrestrial planet closest to the Sun. It is made up of metals with an average equatorial diameter of 4,880 km.	D.	Mercury
___ 5.	It is also known as Red Planet and is mostly made up of rocks. It has an average equatorial diameter of 6,788 km.	E.	Neptune
___ 6.	It appears the brightest in the sky aside from the Moon and Sun. Its average equatorial diameter is 12,104 km.	F.	Saturn
___ 7.	A blue-green gaseous planet with an equatorial diameter of 49,532 km and with an approximate distance of 4.5 billion km from the Sun.	G.	Uranus
___ 8.	A Jovian planet known as the Neptune's twin planet and had an approximate average distance of 2.9 billion km from the Sun.	H.	Venus

Post-Test

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

1. Which is the **smallest** planet?
   A. Earth B. Mars C. Mercury D. Venus

2. Mars: Red; Earth: ____
   A. Blue B. Brown C. Purple D. Yellow

3. Which are classified as **terrestrial** planets?
   A. Mercury, Venus, Earth, Mars
   B. Mars, Jupiter, Neptune, Earth
   C. Earth, Mercury, Saturn, Venus
   D. Jupiter, Saturn, Uranus, Neptune

4. Which is the **correct** arrangement of planets according to their distance from the Sun?
   A. Earth, Mars, Jupiter, Saturn
   B. Jupiter, Saturn, Neptune, Mars
   C. Saturn, Uranus, Neptune, Venus
   D. Uranus, Neptune, Jupiter, Saturn

5. What makes Earth different from other planets?
   I. Earth has abundant liquid water.
   II. It has an atmosphere that protects harmful rays from the sun.

   A. The first statement is correct while the second is incorrect.
   B. The first statement is incorrect while the second is correct.
   C. Both statements are incorrect.
   D. Both statements are correct.

Reference

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

Answer Key

Planet	Composition	Approximate Average Distance	Average Equatorial Diameter
Earth	Terrestrial	149 million km	12,742 km
Jupiter	Jovian	774 million km	142,984 km
Mars	Terrestrial	227 million km	6,788 km
Mercury	Terrestrial	58 million mm	4,880 km
Neptune	Jovian	4.5 billion km	49,532 km
Saturn	Jovian	1.4 billion km	120,536 km
Uranus	Jovian	2.9 billion km	51,118 km
Venus	Terrestrial	108 million km	12,104 km

ACTIVITY 3

1. **Mercury**. The closest planet to the sun. It has an approximate average distance of 58 million km from the sun.
2. **Venus**. The second planet from the sun with an average equatorial diameter is 12,104 km.
3. **Earth**. Considered as the Blue and the only habitable planet.
4. **Mars**. Known as the Red Planet. It has an approximate average of 227 million km from the sun.
5. **Jupiter**. The biggest planet with an equatorial diameter of 142,984 km.
6. **Saturn**. A Jovian planet, golden brown and with an approximate average distance of 1.4 billion km from the sun.
7. **Uranus**. An outer planet with an approximate average distance of 2.9 billion km from the sun.
8. **Neptune**. A Jovian planet with an equatorial diameter of 49,532 km.

ACTIVITY 2

1. Venus
2. Mercury
3. Saturn
4. Earth
5. Jupiter
6. Mars
7. Neptune
8. Uranus
9. Terrestrial
10. Jovian

CHECKING YOUR UNDERSTANDING

1. D	2. F	3. B
4. E	5. A	6. C
7. H	8. G	

Post Test

1. C
2. A
3. A
4. A
5. D

ACTIVITY 1

LOOKING BACK

1. Revolution
2. Revolution
3. Rotation
4. Rotation
5. Revolution

ANSWER KEY

PRETEST

1. C
2. B
3. C
4. C
5. B