

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

UNIFIED SUPPLEMENTARY LEARNING MATERIALS
(USLeM)



MATHEMATICS

This is a Government Property. Not For Sale

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

DEVELOPMENT & EDITORIAL TEAM:

Writer: Janet B. Manuel

Illustrators:

Layout Artists:

Content Editors:

Language Editors:

Management Team:

Regional Director : Malcolm S. Garma

SDS : Romela M. Cruz

CLMD Chief: Genia V. Santos

CID Chief : Alyn G. Mendoza

Regional EPS (Subj.): Bernadeth C. Daran

Regional LR Supervisor : Dennis M. Mendoza

SDO EPS (Mathematics) : Restituto I. Rodelas

SDO LR : Ruby E. Baniqued

Regional Librarian : Nancy S. Mabunga

PDO II - LRMDS : Dorothy Grace I. Reyes

Librarian II : Calixto N. Camangeg

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

LESSON: Solid Figures

EXPECTATIONS: At the end of this module the learners are expected to:

1. Differentiates solid figures from plane figures.
2. Identifies the faces of a solid figure.

PRETEST

A. Directions: Write **P** on the blank if it refers to a plane figure and **S** if it is a solid figure.

- _____ 1. It has volume.
- _____ 2. It is a two-dimensional figure.
- _____ 3. It has length, with and height.
- _____ 4. It can be made straight lines, curved lines, or both.
- _____ 5. It has thickness.

B. Directions: Identify the correct description of each solid figures based on their faces (bases and lateral faces). Choose the letter on their description in the box. Write the letter of your answer before the number.

- A. It has two square bases and four square lateral faces.
B. It has one circular base.
C. It has two circular bases.
D. It composed of two triangular bases and three rectangular faces
E. It composed of a square base and four triangular lateral faces.

- | | |
|---------------------------|-------------------|
| _____ 1. Cube | _____ 4. Cylinder |
| _____ 2. Triangular prism | _____ 5. Cone |
| _____ 3. Square pyramid | |

LOOKING BACK TO YOUR LESSON

Directions: Match column A with column B. Write the letter of the correct answer on the blank before the number.

Column A

- _____ 1. Party hat
- _____ 2. Globe
- _____ 3. Aquarium
- _____ 4. Roof of a house
- _____ 5. Drum

Column B

- A. Rectangular prism
- B. Cone
- C. Cylinder
- D. Sphere
- E. Pyramid

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

BRIEF INTRODUCTION

A **plane figure** is two-dimensional, and a **solid figure** is three-dimensional.

A **plane** is a flat surface that extends without end in all directions. It has two dimensions: length and width. It has no thickness.

Plane figures can be made of straight lines, curved lines, or both.

Plane figures are made up of line segments or arcs of curves joined together in a plane. **Polygons** are closed **plane figures** that are made up of line segments.

The most common examples of plane figures are **squares**, **rectangles**, **triangles**, and **circles**.

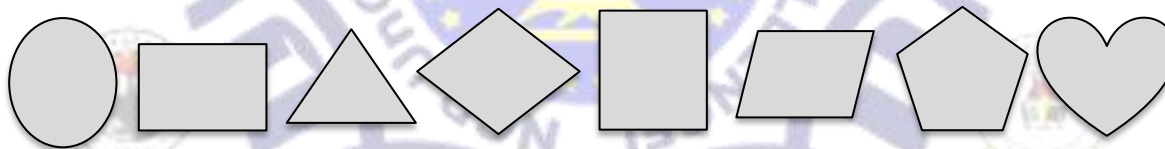
A **rectangle** is a plane closed figure enclosed by four line segments.

A **square** is plane closed figure enclosed by four equal line-segments.

A **triangle** is a plane closed figure enclosed by three line-segments.

A **circle** is a plane closed figure enclosed by a curve, having no sides and no corner. Every point in the curve is situated at equal distance from a definite point within the closed figure.

The following are plane figures.



A **solid or space figure** is a three-dimensional figure that has length, width, and height (depth).

There are two main types of solid figures: **polyhedrons** (or polyhedral) and **non-polyhedrons** (or non-polyhedra)

Polyhedrons have flat surfaces while non-polyhedrons have curved surfaces. Each surface of a polyhedron is called a **face**, and each side is called an **edge**. Each point where the edges meet is called **vertex** (plural: vertices)

When a polyhedron has congruent faces, it is considered a **regular polyhedron**.

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

The **faces** of a solid figure are the flat polygonal surface of a polyhedron. To count the number of faces of a solid figure, just count the number of its flat sides. **Lateral faces** are the **faces** on the sides of a solid figure (like in prism and pyramid) that are not bases.

A **prism** is a polyhedron that has two congruent parallel faces called **bases**. There are different kinds of prisms. A prism is named according to the shape of its base.

Cube is a prism with square bases. All its faces are square.

Triangular prism composed of two triangular bases and three rectangular lateral faces.

Rectangular prism composed of two rectangular bases and four rectangular lateral faces.

A **pyramid** is a polyhedron whose base is a polygon and the lateral faces are triangles.

Triangular pyramid has a triangular base and three triangular lateral faces.

Tetrahedron is a triangular pyramid with four faces made of equilateral triangles.

Rectangular pyramid has a rectangular base and four triangular lateral faces.

Square pyramid has a square base and four triangular lateral faces.

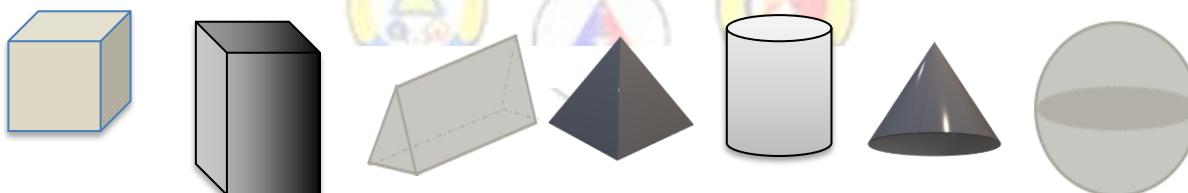
Non-polyhedrons consist of space figures that are formed by the intersection of the curved plane figures, primarily the circle.

Cylinder has two circular bases that are congruent and parallel.

Cone has one circular base.

Sphere has no base or face because it does not have any flat surface.

The following are solid figures.



UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

ACTIVITY NO.1

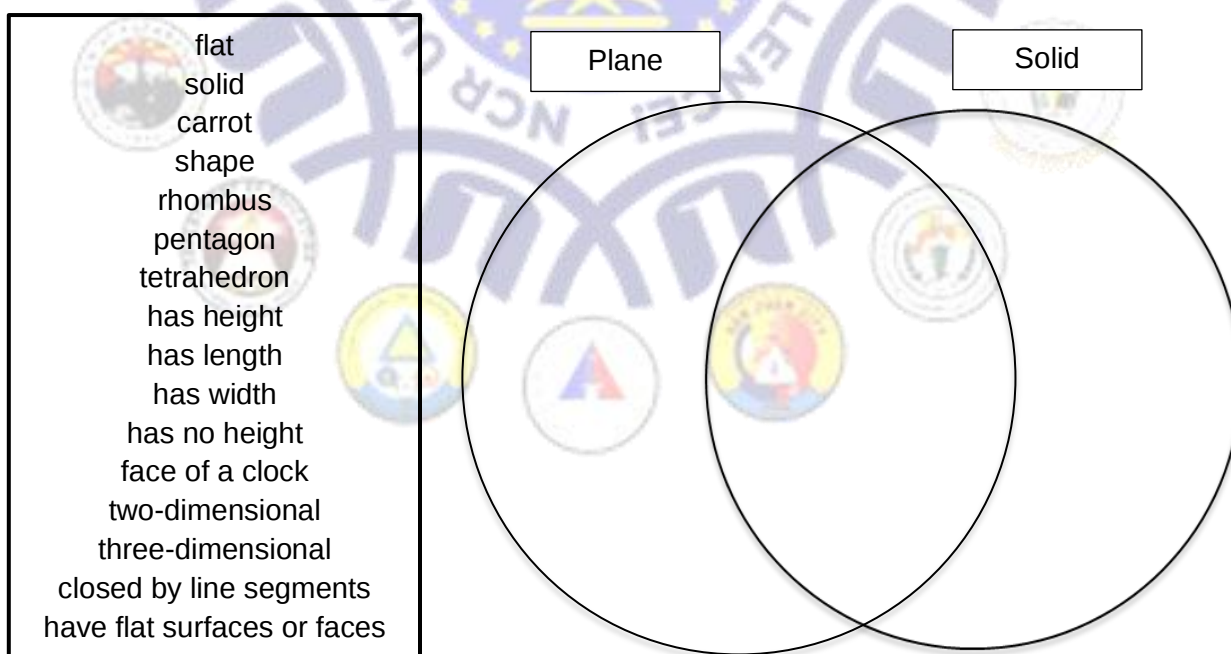
Directions: Classify the objects inside the box in its proper heading.

mug	bell	leaf	paper plate	marbles	pail
place mat		white board	water jug	identification card	

Plane figure	Solid figure

ACTIVITY NO.2

Directions: Write the following words/phrases inside the Venn diagram correctly.



UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

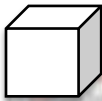
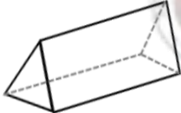
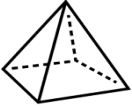
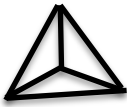
ACTIVITY NO.3

Directions: Identify the total number of faces of each solid figure. Encircle the letter of the correct answer.

- | | | | | |
|---------------------|------|------|------|------|
| 1. Triangular prism | A. 3 | B. 4 | C. 5 | D. 6 |
| 2. Cylinder | A. 1 | B. 2 | C. 3 | D. 4 |
| 3. Square pyramid | A. 2 | B. 3 | C. 4 | D. 5 |
| 4. Cube | A. 3 | B. 4 | C. 5 | D. 6 |
| 5. Cone | A. 1 | B. 2 | C. 3 | D. 4 |

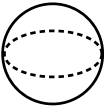
CHECKING YOUR UNDERSTANDING

Directions: Complete the table by supplying the needed data in each column.

Figure	Name of the Figure	Shape of the Base	Total Number of Faces.
			
			
			
			
			

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

POST TEST

Directions: Write **P** on the blank if it refers to a plane figure and **S** if it is a solid figure.

A. .

- _____ 1. It has volume.
- _____ 2. It has no thickness.
- _____ 3. It has length, with and height.
- _____ 4. It is a flat surface that extends without end in all directions.
- _____ 5. It can be a polyhedron or non-polyhedron.

B. Directions: Choose from the box what solid figure is being described by the following statements. Write the letter of the correct answer on the blank before the number.

- A. Cylinder
 B. Sphere
 C. Rectangular prism
 D. Triangular prism
 E. Rectangular pyramid
 F. Cube

- _____ 1. It has a triangular base and three triangular lateral faces.
- _____ 2. It has two circular bases that are congruent and parallel.
- _____ 3. It composed of two rectangular bases and four rectangular lateral faces.
- _____ 4. It has a rectangular base and four triangular lateral faces.
- _____ 5. It has no base or face because it does not have any flat surface.

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

REFERENCES

- Canlapan, Raymond B. *Mathematics in Action 6* (Makati City: Diwa Learning Systems Inc. 2017) 217-220
- Mendoza, Alyn Gahuman Ph. D.T.E., *Creative Mathematics 5* (Quezon City: Mission Book Publishing, Inc. 2014) 242-243
- Perez, Marjoseph H. ;Burgos, Jaime R. ; Placer, Donnel P. ; Dimaranan, Arsenio S. *21st Century MATHletes 6* (Quezon City: Vibal Group, Inc. 2016) 196
- Perez, Marjoseph H. ;Burgos, Jaime R. ; Placer, Donnel P. ; Dimaranan, Arsenio S. *21st Century MATHletes 6 Teacher's Manual* (Quezon City: Vibal Group, Inc. 2016) 72-83
- Osano, Lanie A. *MAT MAED Math Beyond Excellence Grade 5* (Quezon City: JFC Publishing House INC.) 271,304
- NCR Math Modules Third Quarter - Math-6-Q3-M1
- DepEd- Mandaluyong Project CLAID Mathematics-6_ Q3_ W1
- <https://pixabay.com/photos/rubik-cube-cube-game-puzzle-rubik-802889/>
- <https://pixabay.com/go/?t=image-list-getty&id=gm1132091114-299978666>
- <https://pixabay.com/vectors/test-tubes-lab-laboratory-glass-156486/>
- https://cdn.pixabay.com/photo/2013/07/13/10/51/football-157930_960_720.png
- https://cdn.pixabay.com/photo/2016/04/30/13/48/boom-1362920_960_720.png
- <https://pixabay.com/illustrations/camping-camp-tent-mountains-field-2169976/>
- <https://www.shutterstock.com/search/parallelogram>
- <https://overturesignages.com>
- <https://kindpng.com>
- https://etc.usf.edu/clipart/33600/33654/nclock-01-00_33654.htm

UNIFIED SUPPLEMENTARY LEARNING MATERIALS

Grades 6 MATHEMATICS

ANSWER KEY

White board	marbles
Identification card	Water jug
Paper plate	Bell
Place mat	Pail
Leaf	Mug
Plane figure	Solid Figure

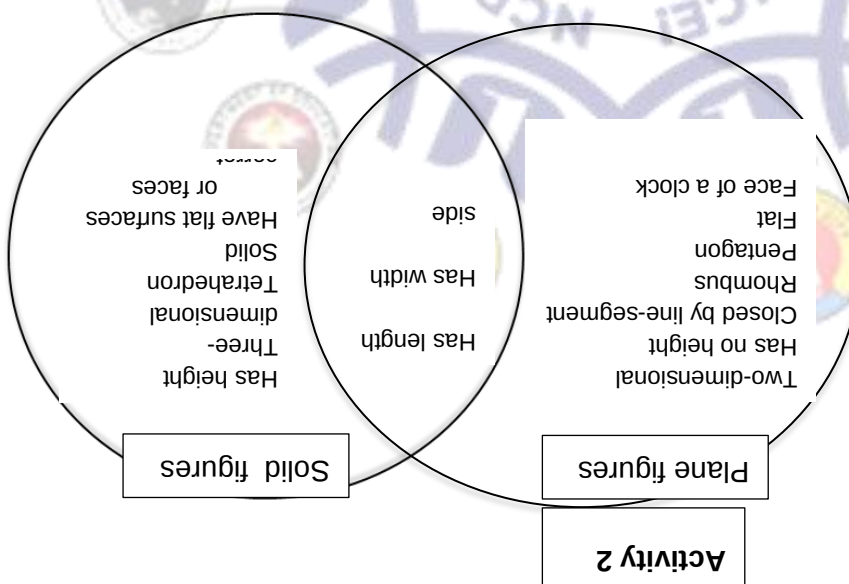
Activity 1
1. B
2. D
3. A
4. E
5. C

Pretest
A.
1. S
2. P
3. S
4. P
5. S

Looking Back To Your Lesson
1. A
2. D
3. E
4. C
5. B

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

Check Your Understanding
Name of the Figure
Shape of the Base
Total Number of Faces.
Cube
Rectangular prism
Rectangular prism
Triangular prism
Square pyramid
Triangular pyramid
Cylinder
Cone
Sphere



Posttest
A.
1. S
2. P
3. S
4. P
5. S