JANUARY
Makugihon

FEBRUARY
Mahigugmaon

MARCH
Matinabangon

APRIL
Matinahuron

MAY
Mahapsay og Malimpyo

JUNE
Maabtik og Musunod sa Insaktong Oras

JULY
Maantigo og Maabilidad

AUGUST
Maginhunahunaon para sa Uban

SEPTEMBER
Madaginoton

OCTOBER
Matinud-anon

NOVEMBER
Masaligan

DECEMBER
Maalampuon

Republic of the Philippines
Department of Education
Regional Office IX, Zamboanga Peninsula

6

Zest for Progress
Zeal of Partnership

MATHEMATICS

Quarter 3 – Module 1

Different Solid Figures

Name of Learner: _____

Grade & Section: _____

Name of School: _____

What I Need to Know

The module contains one lesson:

Lesson 1: Visualizing, Describing, Differentiating, and Identifying the Different Solid Figures

After going through this module, you are expected to:

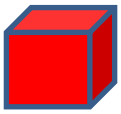
1. Visualize and describe different solid figures: cube, prism, pyramid, cylinder, cone, and sphere using various concrete and pictorial models.
2. Differentiate solid figures from plane figures. M6GE-IIIa-28
3. Identify the faces of solid figure. M6GE-IIIb-30

What I Know

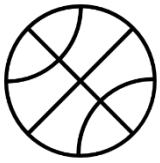
Now let's try to find out how much you already know about the lesson. Take note of the items that you were not able to answer correctly and find out the right answer as you go through this module.

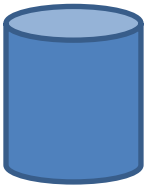
Directions: Read each item carefully. Encircle the letter of the correct answer.

1. Which object is a cone?

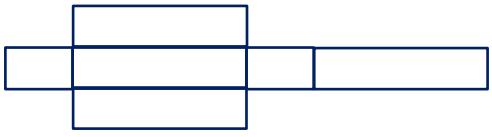
A. 

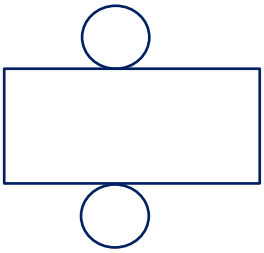
B. 

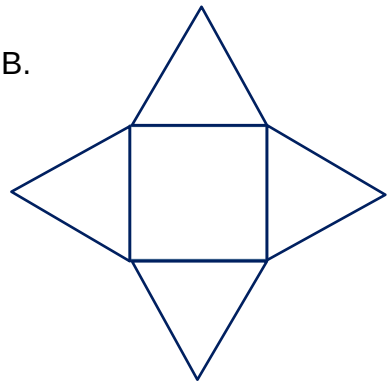
C. 

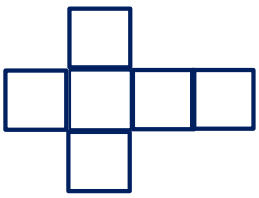
D. 

2. Which of the following is the net of a cube?

A. 

C. 

B. 

D. 

.

3. A geometric figure having a set of point space that is the same distance from a given point is called _____.

A. sphere B. pyramid C. cone D. cylinder

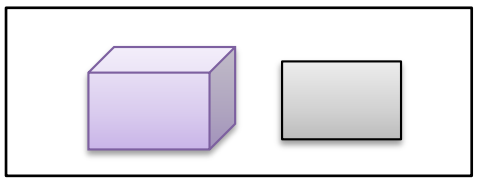
4. What solid figure having a base and a triangular face which meet at a common vertex?
A. pyramid B. prism C. sphere . D. cone

5. Which **BEST** describes a cylinder?
A. It has circular bases.
B. It has a base and a vertex.
C. It is a geometric figure with sides and circular base.
D. It has two parallel circular bases connected by curved surface.

6. Can a cone be called a pyramid?
A. Yes, because they both have bases and vertex.
B. Yes, because a cone has a circular base.
C. No, because a cone has a curved surface while a pyramid has a triangular faces.
D. Maybe, because they are both solid figures

7. What is the difference between a plane and solid figure?
A. Plane figure is two dimensional while solid figure is three dimensional.
B. Plane figure has height while solid figure doesn't have.
C. Solid figures have circular bases while plane figure has polygonal base.
D. All Solid figures are made up of connected line segments while plane figures are not.

8. Look at the two objects below. How do they differ?



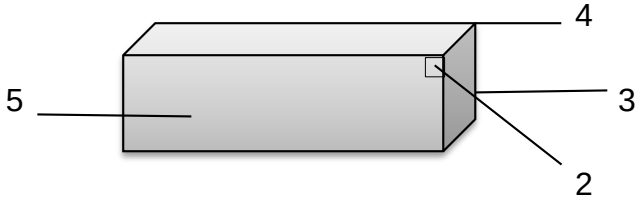
A. height C. quantity

B. face D. dimension

9. How many faces a cube has?

A. 5 B. 6 C. 7 D. 8

10. Which number correctly labels the lateral face of the figure below?



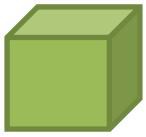
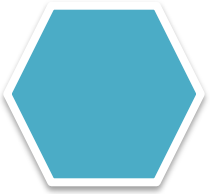
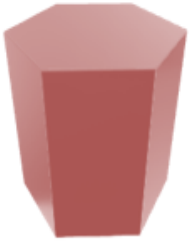
A. 2 B. 3 C. 4 D. 5

What's In

Activity 1: **Match Me !**

Directions: Match 3D and 2D. Write the letter of your answer on the space before the number.

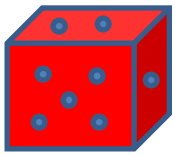
.

	3D figures	2D figures
_____ **1.**		**A.** 
_____ 2.		B. 
_____ **3.**		**C.** 
_____ **4.**		**D.** 
_____ 5.		E. 

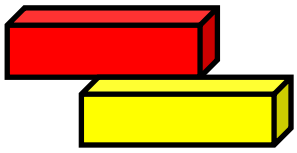
What's New

Read carefully the problem.

A Grade Six pupil joined a school camping. He brought with him the following:




BINGO CARD				
B	I	N	G	O
55	72	73	36	43
11	40	16	27	4
21	71	★	12	38
18	67	25	74	37
10	5	61	48	9




From the items that he brought, which of them are solid figures?
Which of them are plane figures?

Use the **Polya's Four-Step plan** to solve the problem.

Understand.

a. What is asked?
   The items that are plane and solid figures.
b. What are given facts?
   Different things brought by a camper.

Plan.

Strategy: Use the definition

Solid Figure – is a three-dimensional figure that has length, width and height.

Plane figure – is a two dimensional figure which possesses an area. The examples of plane figures are square, circle, rectangle, triangle etc.

Solve.

Solid Figures	Plane Figures
dice, ball, blocks, juice can, milk box	Bingo card, mat

Check.

Bingo Card and mat are flat and have only two dimensions, the length and width. Therefore they are plane figures. Dice, ball, blocks, juice can and milk box have three dimensions; length, width and height. Therefore, they are solid figures.

Scouting Integration: Why is scouting important?

Scouting activities develop human's personality, mentally, physically, socially, emotionally and spiritually. It provides youth with a sense that they are important as individuals. Finally, and perhaps most importantly, Scouting promotes activities that lead to personal responsibility and high self-esteem.

Campers Motto: Laging Handa.

Now, what is the difference between a plane figure and a solid figure?

Aside from the previous definition, Of course, the difference between the plane and solid figures is in their dimensions. Where a square is a plane figure, it's 3D counterpart is a cube. A. cube is a solid figure. The same comparison exists between a circle and a sphere. Individuals create plane figures by connecting points on a grid to create 2D geometrical shapes. The same shape take an extra dimension by adding additional points and lines to give the shape height, width and depth.

Activity 2

Directions: Write **A** if it is plane figure and **B** if it is solid figure on the blank.

_____ 1. plate
_____ 2. tennis ball
_____ 3. Playing card.
_____ 4. receipt
_____ _ 5. water pipe
_____ 6. Shoe box
_____ 7. Disc
_____ 8. Floor mat
_____ 9. Camping tent
_____10. an aquarium

What is it

A. Solid Figures

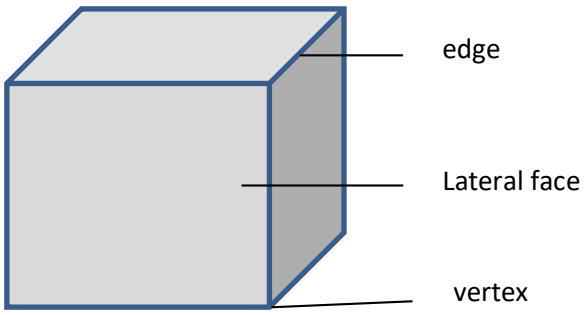
Solid Figures

- three-dimensional figures that have length, width and height
- An **edg**e is formed when two faces meet
- They may have faces, edges and vertices
- A **face** is the flat surface of a solid figure.
- A **vertex** (plural vertices) is a point where edges meet
- They are either polyhedron or non-polyhedron
- A solid is a **polyhedron** if all its faces are polygons, otherwise it is **non-polyhedron**

B. Different Solid Figures

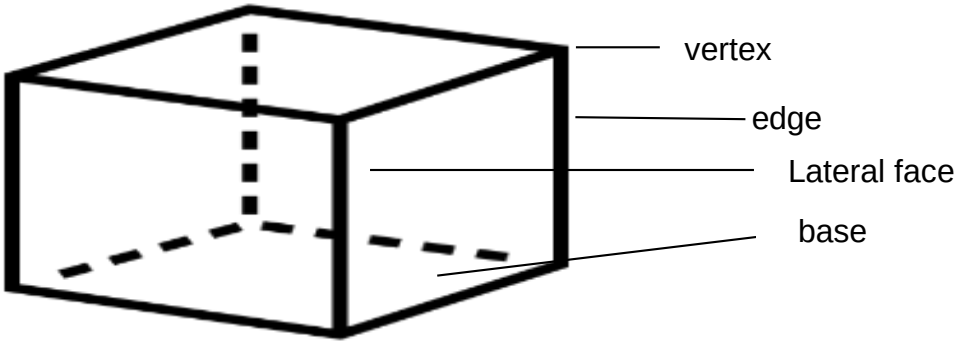
1. Polyhedron

1. **Cube** ____ A cube has six equal square - shaped sides. Cubes also have eight vertices (corners) and twelve edges, all the same length. The angles in a cube are all right angles. All six faces are squares.

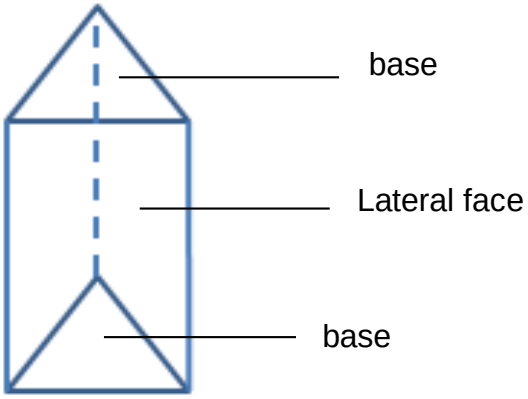


2. **Prism ___ A prism** is a polyhedron with exactly two faces that are congruent and parallel. These faces are called bases. Other faces are called lateral faces. Some examples of prisms are rectangular prisms, triangular prisms, pentagonal prisms, hexagonal prisms, etc....

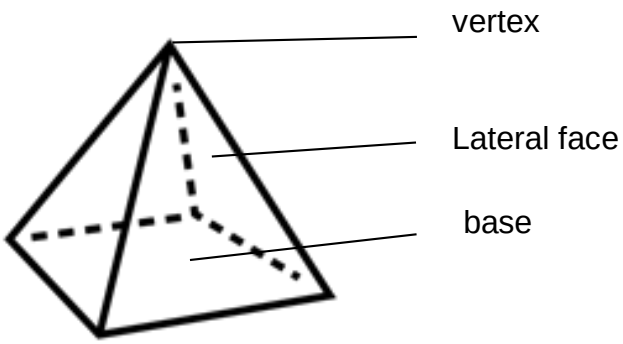
a. A **rectangular prism** is made of two parallel faces that are polygons. These parallel faces are rectangles in this case and they are congruent. Looking at the figure below, the bases are the top and bottom base. The other four faces are called lateral faces.



b. **A triangular prism** is shown below. It is a prism with two triangular faces that are congruent. The other three faces are rectangles and they are called lateral faces.

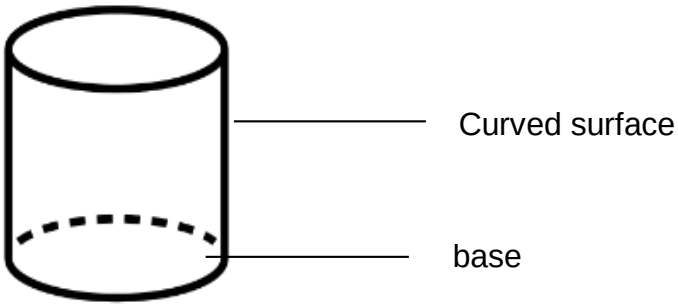


3. **A pyramid** is a polyhedron in which one face, also called the base, can be any polygon. The other faces, also called lateral faces or triangular sides, are triangles that meet at a common vertex.

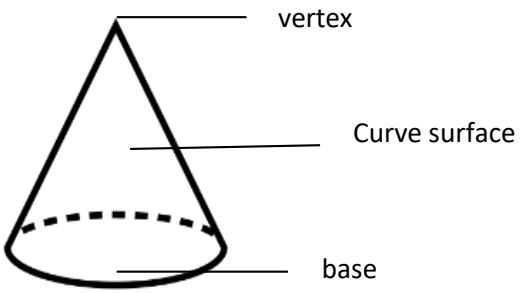


2. Non-polyhedron

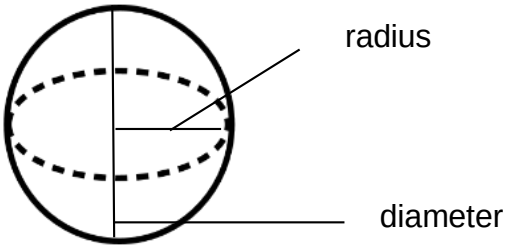
4. **Cylinder -** is a solid figure with two congruent or equal circular bases connected by a curved surface.



5. **Cone -** is a solid figure with a circular base connected by a curved surface to a single vertex.



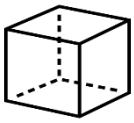
6. **Sphere** - is a figure with a curved surface in which all points on the surface are equal distance from the center.

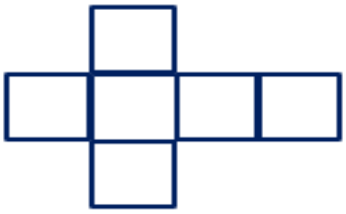


C. MAKING MODELS OF THE DIFFERENT SOLID FIGURES

- To make a **solid figure**, we have to make a **net**.
- ***A net*** is all the surfaces of a solid figure laid out flat**.**
  These are the following nets of the solid figures .

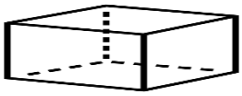
1. Cube

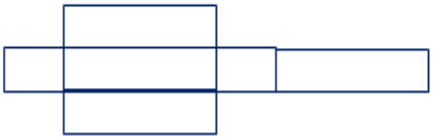




(All six faces are squares **)**

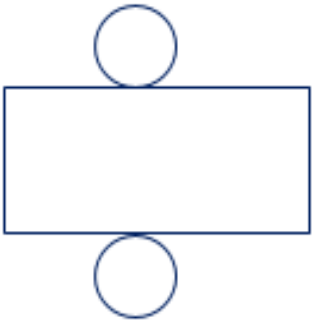
2. **Prism**





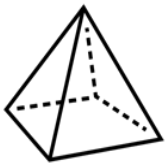
(The faces are rectangles**.)**

3. **Cylinder**



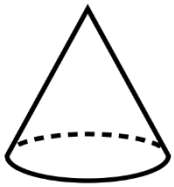
(It's surface is curved and with two circular bases.**)**

4. **Pyramid**



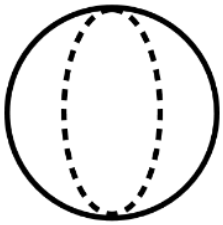
(It's faces are triangles and the base is square. So, it is a square pyramid.)

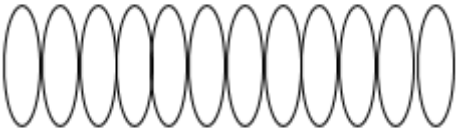
5. **Cone**



(It's surface is curved with a circular base)

6. **Sphere**





(It has one surface that is perfectly symmetrical.)

What's More

Activity 3: **Name Me !**

.

Directions: Choose the solid figure that is represented by each object from the box below.

Cube	prism	pyramid
sphere	cone	cylinder

_____ 1. ice cream cone
_____ 2. orange
_____ 3. shoe box
_____ 4. camping tent
_____ 5. die
_____ 6. soccer ball
_____ 7. can of milk
_____ 8. globe
_____ 9. Santa hat
_____10 . water tank

What I Have Learned

Activity 4: **Check Me if I'm Right!**

Directions: Read the statements below. Put a check ✓ mark if the **Italicized word** is correct. Write the **correct answer** if it is wrong on the space provided for**.**

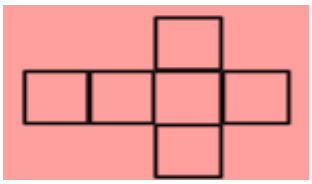
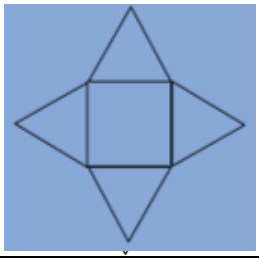
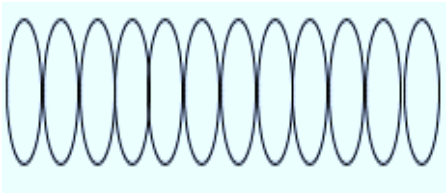
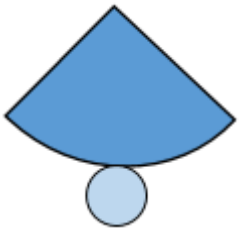
_____ 1. A ***prism*** is a polyhedron whose bases are congruent and whose lateral faces are parallelograms.
_____ 2. A ***cone*** has a square base and the lateral faces are triangles.
_____ 3. ***Plane figures*** are three dimensional objects.
_____ 4. ***Sphere*** is a curved surface of points that are all of the same distance from the center.

_____ 5. A ***pyramid*** is a polyhedron formed by connecting a polygonal base and a point, called the apex.

What I Can Do

Activity 5: ***Illustrate Me!***

Directions: Study the table below. Draw the solid figure that can be formed from each net.

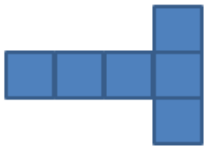
Net	Solid Figure
1. 	
2. 	
3. 	
4. 	
5. 	

Source: wikimedia.org

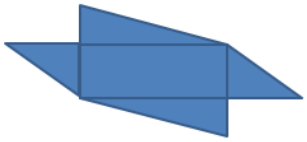
Assessment

Directions: Choose the letter of the correct answer. Write it on the space provided for you.

_____ 1. Which of the following nets will NOT fold to form a three- dimensional figure?

A. 

C. 

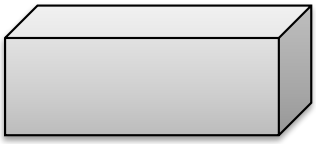
B. 

D. 

_____ 2. Which of the following represents **perfectly** a sphere?

A. egg B. apple C. beach ball D. coin

_____ 3. Which of these CANNOT be a name for the figure below?



A. polyhedron C. rectangular prism

B. Square prism D. square pyramid

_____ 4. A three dimensional figures made up of plane figures whose sides are joined together to form a close figure is called _____..

A. Polygons C. plane figures

B. Spatial figures D. prim

_____ 5. What do you call a set of points that are all at the same distance from a given point in a three-dimensional space?

A. Prism C. sphere

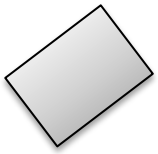
B. Square pyramid D. cone

_____ 6. . Which is **NOT** true about the figure below?

A. It has four triangular faces. C. It has a rectangular base.

B. All faces are scalene triangles. D. It has common endpoint called vertex

_____ 7. Which figure does not belong to the group?

A.  B.  C.  D. 

_____ 8. Which statement EXACTLY differentiate a square from a cube?

A. Square has angles less than 90 degrees while all angles of a cubeb are right angles.
B. Square is two dimensional while a cube has no dimension.
C. Square is made up of line segments while a cube is made up of rays and line segments.
D. Square has only 2 dimensions; length and width while a cube is a 3D figure (having 3 dimensions); length, width and height.

._____ 9. . What plane figure are the faces of a pyramid?

A. squares C. rectangles
B. triangles D. circles

_____ 10. How many lateral faces does a pentagonal pyramid have?

A. 5 B. 6 C. 7 D. 8

Additional Activities

Construct the different spatial figures below. Use any indigenous or printed materials Take note of the given rubrics.

1. pyramid
2. cone
3. cube
4. rectangular prism
5. cylinder
6. sphere

Rubrics:

Criteria	5	3	2	Total
Completeness and accurateness	Complete and accurate outputs	Accurate but not complete outputs	Not complete and not accurate outputs	
Creativity and Resourcefulness	Show Creativity and resourcefulness of the finished outputs	Show resourcefulness but not so creative	It does not show creativity and resourcefulness of the outputs	
Neatness	There is no dirt, and crumples	There are few dirt and crumples	There are many dirt and crumples	
Total				

References:

Balagtas Marilyn U.. *Making Connections in Mathematics.*Manila:VICARISH Pub. And Trading Inc.. 2009

Gabriel-Callanta, Edna S., Teresita A. Bambico, Norma G. Cajilig, Teresita R. Mańalac, et al..*Sourcebook on Practical Work for Teacher Trainers Elementary School Mathematics.* Quezon City: Science and Mathematics Educatiom Manpower Development Project (SMEMDP).2000

Perez, Marjorie H., Donnel P. Placer and Jaime R. Burgos, *21st Century MATHletes 6*. edited by Mercurio T. Elenzano,EdD and Chin Uy, Ph.D.Quezon City:Vibal Group, Inc..2016

Development Team

Writer:	**Vilma S. Gumandao** Surabay Central Elementary School
Editors/QA:	**Cirilo M. Cuanan, Jr.** **Joel Mar Q. Labe, EMD**
Reviewer:	**Gina I. Lihao** EPS-Mathematics
Illustrator:	
Layout Artist:	
Management Team:	
	Evelyn F. Importante OIC-CID Chief EPS
	Dr. Jerry C. Bokingkito OIC- Assistant SDS
	Dr. Aurelio A. Santisas, CESE OIC- Assistant SDS
	Jeanelyn A. Aleman, CESO VI OIC-Schools Division Superintendent