LESSON PLAN ON

WEEK 8

Name of Teacher: Peter Ekeocha

Class: Year 7 & 8

Average age of learners: 11- 12years

Gender: Mixed

Subject: Mathematics

Topic: Geometry and measurement (Plane shapes and properties)

Duration: 40mins

Date: 26th February – 1st March, 2024

CONTENT:

RATIONALE: The knowledge acquired will enable the learners to understand the concept of plane shapes and its properties.

PERFORMANCE OBJECTIVES: By the end of the lesson, given an infographic of variation, chart of concept mapping as well as videos displaying of plane shapes, the learners should be able to:

1. **Cognitive Domain (Minds-on):**
2. State correctly, plane shapes.
3. Identify different forms of plane shapes
4. Identify properties of plane shapes
5. **Affective Domain (Hearts-on):**
6. Show willingness in the lesson by analyzing correctly the use of geometry.
7. Appreciate the lesson by answering the teacher’s questions with keen interest.
8. **Psychomotor domain (Hands-on)**
9. Use infographic to vividly represent the geometry, without any mistake.
10. Implore a concept map to show geometry at a glance without mistakes.
11. **Interpersonal domain:** (Learners’ ability to interact with others and share knowledge):
12. Discuss elaborately in groups and share knowledge and experiences acquired.

**ENTRY/ENTERING BEHAVIOUR:** Learners are familiar with geometry of plane shapes.

**INSTRUCTIONAL MATERIALS:** Laptop/desktop, projector, videos, printed images, charts, marker, whiteboard and coloured cardboard paper.

**INSTRUCTIONAL PROCEDURE:** Check table below.

**TABLE: INSTRUCTIONAL PROCEDURE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Duration** | **Content Development** | **Teaching Strategies** | **Instructional Strategies** | **Specific Instructional Materials in Use** | **Teacher’s Performance Activities** | **Students’ Performance Activity** | **Learning Point** |
| 5 mins | Asking Provocative questions | Set Induction | Brainstorming | Marker, Whiteboard | The teacher divides the learners into groups of three members each to brainstorm and identify different parts | Learners answer the probing questions that the teacher has given them after brainstorming. | Learners have listed the approach of identifying geometry. Methods of solving geometry has been learnt |
| 14mins | Identification of geometry | Use of examples and illustrations, planned repetition, stimulus geometry, questioning and reinforcement. |  |  | The teacher uses a slide to show an infographic of the geometry of plane shapes, plays videos showing the different ways of identifying geometry | The learners identify the ways of solving geometry, pay attention to the teacher, generate new ideas and integrate them with other concepts | The learners have learnt how to Identify geometry. |
| 8mins | Differentiating geometry of plane shapes |  |  |  |  |  |  |
| 8mins | Requirements for geometry. | Use of examples and illustrations | Role-play, brainstorming | Coloured cardboard papers |  |  |  |

**EVALUATION:** The teacher evaluates the lesson using the following questions

1. Identify the geometry.
2. Identify the various types of geometry.
3. Differentiate by identifying plane shapes and properties respectively.
4. Using a concept mapping, show geometry at a glance.

**CLOSURE:** The teacher summarizes the lesson by guiding the learners, going through the main points of the lesson, discussing the geometry. The teacher gives the learners some time to reflect on what they have learnt, ask questions and as well take corrections.

**CLASS FUN:**

1. What is a triangle
2. State the properties a triangle
3. Draw the shape of any triangle of your choice

**ASSIGNMENT (HOMEWORK):**

1. What is a plane shape
2. State properties of a rectangle
3. Draw the diagram of a circle
4. Identify by drawing equilateral triangle

**REFLECTION ON LESSON:**

**CONTENT**

**. Identification of geometry (plane shapes)**

**. Properties of geometry (plane shapes)**

Identification of geometry (plane shapes)

Plane shapes are two-dimensional and have only breadth and width.

Examples of plane shapes are squares, rectangles, circles, triangles etc.

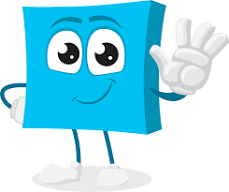
**Properties of geometry (plane shapes)**

**Square**

A plane shape that has four sides that are all the same length and has four right angles for corners is called a square.

Properties of a square

* The shape has four sides.
* Each of the sides is of equal length.
* Opposite sides are parallel.
* The shape has four angles.
* Each of the angles has an equal measure.
* Each of the angles is a right angle, which means they each have a measure of ninety degrees.



**Rectangle**

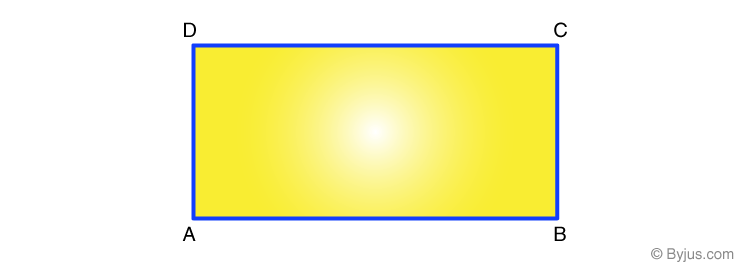
A **Rectangle** is a four sided-polygon, having all the internal angles equal to 90 degrees. The two sides at each corner or vertex, meet at right angles.

Properties of Rectangle

* A rectangle is a quadrilateral.
* The opposite sides are parallel and equal to each other.
* Each interior angle is equal to 90 degrees.
* The sum of all the interior angles is equal to 360 degrees.
* The diagonals bisect each other.
* Both the diagonals have the same length
* A rectangle with side lengths a and b has the perimeter as 2a+2b units
* A rectangle with side lengths a and b has the area as: ab sin 90 = ab square units
* A diagonal of a rectangle is the diameter of its circumcircle
* If a and b are the sides of a rectangle, then the length of each diagonal is:

�=�2+�2

* The diagonals bisect each other at different angles. One is acute, and another one is an obtuse angle
* If the two diagonals bisect each other at right angles, then the rectangle is known as a square
* A cylinder is obtained when the rectangle is rotated along the line joining the midpoint of the longer parallel sides. In this case, the height of the cylinder is equal to the width of a rectangle. Also, the cylinder diameter is equivalent to the length of a rectangle
* A cylinder is obtained when the rectangle is rotated along the line joining the midpoint of the shorter parallel sides.

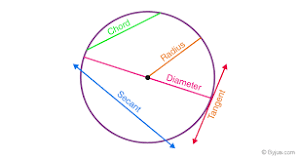


**Circle**

A **circle** is a plane figure bounded by one curved line, and such that all straight lines drawn from a certain point within it to the bounding line, are equal.

Properties of a circle

* The circles are said to be congruent if they have equal radii.
* The diameter of a circle is the longest chord of a circle.
* Equal chords of a circle subtend equal angles at the centre.
* The radius drawn perpendicular to the chord bisects the chord.
* Circles having different radius are similar.

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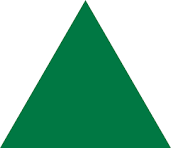
**Triangle**

A **triangle** is a polygon with three corners and three sides, one of the basic shapes in geometry

Properties of Triangle

What are the 4 types of triangles and their properties?

Equilateral Triangle: All the sides are equal and all the three angles equal to 60°. Acute Angled Triangle: A triangle having all its angles less than 90°. Right Angled Triangle: A triangle having one of the three angles exactly 90°. Obtuse Angled Triangle: A triangle having one of the three angles more than 90°.

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