Fayol Inc. 0547824419

THIRD TERM

WEEKLY LESSON NOTES

WEEK 5

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| **Week Ending:** | | **DAY:** | | **Subject:** Mathematics | | | |
| **Duration:** 60MINS | | | | **Strand:** Geometry & Measurement | | | |
| **Class:** B9 | | **Class Size:** | | **Sub Strand:** Measurement | | | |
| **Content Standard:**  B.9.3.2.1 Derive the formulas for determining the surface area of prisms (i.e. cuboid and triangular prism) and use to solve problems. | | | **Indicator:**  B9.3.2.1.2 Use the net of a cuboid to determine its surface area. | | | | **Lesson:**  1 of 1 |
| **Performance Indicator:**  Learners can identify the faces of a cuboid in its net and calculate the surface area of a cuboid using its net. | | | | | **Core Competencies:**  Communication and Collaboration (CC) Critical Thinking and Problem solving | | |
| **References:** Mathematics Curriculum Pg. | | | | | | | |
| **New words:** | | | | | | | |
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| Phase/Duration | Learners Activities | | | | | Resources | |
| PHASE 1: **STARTER** | Show a model of a cuboid and ask learners to identify its faces (top, bottom, sides).  Discuss the properties of a cuboid (6 faces, all rectangles, opposite faces congruent). | | | | |  | |
| PHASE 2: **NEW LEARNING** | Introduce the concept of a net as a 2D representation of a 3D shape that can be folded to form the complete shape.  Explain how a net shows all the faces laid out flat, but keeps track of how they connect.  Show a net of a cuboid with labeled faces. Point out how the net reflects the arrangement of the faces in the cuboid (top, bottom, sides).  Discuss how some opposite faces might appear next to each other on the net.  Distribute a worksheet with a blank net of a cuboid. Challenge learners to identify which faces of the cuboid each flap of the net represents (top, bottom, sides).  Introduce the concept of surface area as the total area of all the faces of a 3D shape.  Explain how a net can be helpful in calculating the surface area because it shows all the individual faces.  Present the formula for calculating the surface area of a cuboid: Surface Area = 2 (lw + lh + wh) where l, w, and h represent the length, width, and height of the cuboid (dimensions can be all the same for a cube).  Explain how this formula considers the areas of each rectangular face twice (since opposite faces are congruent).  Distribute rulers to learners. Guide them through measuring or estimating the lengths and widths of each rectangle on the net.  Label these dimensions on the net itself.  Instruct learners to calculate the area of each rectangle on the net using the formula area = length x width.  Prompt them to write the calculated area next to each rectangle.  Ask learners to add all the individual areas of the rectangles on the net. This sum represents the total surface area of the cuboid.  Show learners examples of how nets are used in real life (e.g., packaging boxes, designing furniture).  Discuss the importance of calculating surface area for tasks like estimating material needed to create a box.  Assessment   1. Find the surface area of each of the cuboids | | | | | Model of a cuboid | |
| PHASE 3: **REFLECTION** | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.  Take feedback from learners and summarize the lesson. | | | | |  | |

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| **Week Ending:** | | **DAY:** | | **Subject:** Mathematics | | | |
| **Duration:** 60MINS | | | | **Strand:** Geometry & Measurement | | | |
| **Class:** B9 | | **Class Size:** | | **Sub Strand:** Measurement | | | |
| **Content Standard:**  B.9.3.2.1 Derive the formulas for determining the surface area of prisms (i.e. cuboid and triangular prism) and use to solve problems. | | | **Indicator:**  B9.3.2.1.3 Use the net of a triangular prism to determine its surface area | | | | **Lesson:**  1 of 1 |
| **Performance Indicator:**  Learners can identify the faces of a triangular prism in its net and calculate the surface area of a triangular prism using its net. | | | | | **Core Competencies:**  Communication and Collaboration (CC) Critical Thinking and Problem solving | | |
| **References:** Mathematics Curriculum Pg. | | | | | | | |
| **New words:** | | | | | | | |
|  | | | | | | | |
| Phase/Duration | Learners Activities | | | | | Resources | |
| PHASE 1: **STARTER** | Show a model of a triangular prism and ask learners to identify its faces (bases, lateral faces).  Discuss the properties of a triangular prism (two triangular bases, rectangular lateral faces). | | | | |  | |
| PHASE 2: **NEW LEARNING** | Introduce the concept of a net as a 2D representation of a 3D shape that can be folded to form the complete shape.  Explain how a net shows all the faces laid out flat, but keeps track of how they connect.  Show a net of a triangular prism with labeled faces. Point out how the net reflects the arrangement of the faces (triangular bases, rectangular sides).  Discuss how some faces might appear next to each other on the net.  Distribute a worksheet with a blank net of a triangular prism. Challenge learners to identify which faces of the triangular prism each flap of the net represents (bases, sides).  Introduce the concept of surface area as the total area of all the faces of a 3D shape.  Explain how a net can be helpful in calculating the surface area because it shows all the individual faces.  Present the formula for calculating the surface area of a triangular prism: Surface Area = 2 \* Area of Base + Perimeter of Base x Height where "Area of Base" represents the area of one triangular base,  "Perimeter of Base" is the total length of all sides of the triangular base, and "Height" is the vertical height of the prism.  Distribute rulers to learners. Guide them through measuring or estimating the lengths of the sides of the triangular bases and the rectangles on the net.  Label these dimensions on the net itself.  Instruct learners to calculate the area of each triangular base using the formula Area = 1/2 \* base \* height (where base is the length of one side of the triangle and height is the corresponding perpendicular height from that base to the opposite vertex).  Prompt them to write the calculated area next to each triangle.  Ask learners to find the perimeter of each triangular base by adding the lengths of all its sides. Record the perimeter next to each base on the net.  Instruct learners to follow the formula:   * Multiply the area of one base by 2 (since there are two triangular bases). * Add the product to the perimeter of one base multiplied by the height of the prism. * This sum represents the total surface area of the triangular prism.   Show learners examples of how nets are used in real life (e.g., roof structures, packaging for certain products).  Discuss the importance of calculating surface area for tasks like estimating material needed to build a model.  Assessment   1. Find the surface area of each of the triangular prims. | | | | | Model of a triangular prism | |
| PHASE 3: **REFLECTION** | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.  Take feedback from learners and summarize the lesson. | | | | |  | |