**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 2: April – June**

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| **PROVINCE:** |  |
| **DISTRICT:** |  |
| **SCHOOL:** |  |
| **TEACHER’S NAME:** |  |
| **DATE:** |  |
| **DURATION**: | 1 Hour |

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| 1. **TOPIC: SURFACE AREA AND VOLUME OF 3D OBJECTS:** Surface area and volume **(Lesson 2)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to** use appropriate formulae to calculate the surface area, volume and capacity of rectangular prisms |

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| 1. **RESOURCES:** | Sasol-Inzalo Book 1, DBE workbook 1, textbook. |
| 1. **PRIOR KNOWLEDGE:** | Area, volume and capacity of the rectangular prisms done in previous grades. |
| 1. **REVIEW AND CORRECTION OF HOMEWORK** (suggested time: 10 minutes)   Homework provides an opportunity for teachers to track learners’ progress in the mastery of mathematics concepts and to identify the problematic areas which require immediate attention. Therefore it is recommended that you place more focus on addressing errors from learner responses that may later become misconceptions. | |
| 1. **INTRODUCTION** (Suggested time: 10 Minutes)  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  |   Consider the following rectangular prism made from small cubes of and its faces.   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  | (i)  (iii)  (ii) |  |  |  |         N.B.: Remember each of these faces has a replica.     1. Use the rectangular prism above to answer the following questions. 2. How many small cubes make up the rectangular prism? 210 cubes 3. What is the volume of the rectangular prism? 210 4. How many small cubes make up the first layer of the rectangular prism? 30 cubes 5. How many cubes make up the length and breadth of the first layer (base)?   Length 6 cubes and the breadth 5 cubes   1. Use the formula to calculate the area of the bottom face (base) of the rectangular prism.   Area of the base   1. How many layers (height of the rectangular prism) does the prism have? 7 layers 2. Is there no other way that we can use to find the volume of the prism without counting the number of cubes which makes up the prism?   Yes, Volume of the rectangular prism Area of the base number of layers  Area of the baseheight           1. Calculate the area of each pair of faces of the rectangular prism.   (a) (b) (c)       1. What is the total surface area of the rectangular prism?   ²     |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to: ) |
| Activity 1: What is the volume of these rectangular prisms?  (a) (b) (c) *h*  8cm 3cm  3cm 2cm 5cm 2cm*l b*  After learners’ calculations and teacher’s feedback no (c) is emphasised as a formula for calculating any given rectangular prism.  Volume of a rectangular prism = *l x b x h*  Activity 2: What is the surface area of these rectangular prisms?  (a) (b) (c) *h*  8cm 3cm  3cm 2cm 5cm 2cm *l b*  This what is expected from learners:  a) x x        b) xx        (c) x    After leaners’ calculations and teacher’s feedback no (c) is emphasised as a formula for calculating any given rectangular prisms  Surface area of a rectangular prism | Calculate as follows:-  a)  b)    c)  *cubic units* |

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| 1. **CLASSWORK** (Suggested time: 15 minutes)   DBE workbook 1 page 134 no. 1 (a) and page 141 no. 2 (b) |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. **Emphasise that**:  * Volume of a rectangular prism is x x * Surface area of a rectangular prism is  1. **Homework**:   The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore Homework should be purposeful and the principle of ‘Less is more’ is recommended, i.e. give learners few high quality activities that address variety of skills than many activities that do not enhance learners’ conceptual understanding. Carefully select appropriate activities from the Sasol-Inzalo Book1, DBE workbook 1 and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  DBE workbook 1, page 135 no. 1 (c) and page 141 no. 2 (d) |