**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 1)** |

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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 a cube |

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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 cube below which is made from small cubes of 1 by 1 by 1:   |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | |  |  |  |     **One face of the cube**   1. Use the Cube above to answer the following questions. 2. How many small cubes make up the big cube? 27 cubes 3. What is the volume of the big cube? 4. How many small cubes make up the first layer of the big cube? 9 cubes 5. How many cubes make up the length of each edge of the big cube?   3 cubes   1. Use the formula to calculate the area of the bottom face (base) of the big cube.   Area of the base   1. How many layers (height of the big cube) does the big cube have? 3 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 cube Area of the base number of layers  Area of the base height           1. Calculate the area of each face of the big cube.   A cube has six (6) identical faces, see the net alongside  Surface area of a cube Sum of areas of all its faces        Hence the surface area of a cube | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to: ) |
| **Activity 1**:  Calculate the volume of the following cubes.=  Volume           1. Volume     **Note**: After learners’ calculations and teacher’s feedback no (b) is  emphasised as a formula for calculating volume of any given cube.  Volume of a cube = *S³* | respond to questions posed by the teacher  engage with responses of their peers |
| **Activity 2:**  Calculate the surface area of the cubes below.      Surface area             1. Surface area         After learners’ calculations and teacher’s feedback no (b) is emphasised as a formula for calculating surface area of any given cube.  Surface area of a cube= 6*S²* | respond to questions posed by the teacher  engage with responses of their peers |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) 2. Use the cube alongside and calculate using appropriate formulae its: 3. volume 4. surface area.      1. The dimensions of a 3D object are: . Calculate its      1. volume 2. surface area. |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. **Emphasise that**:  * Volume of an object is the amount of space it occupies.   Volume of a cube = *S³*   * Formula thereof is * Surface area of an object is the total area of the areas of the faces.   Formula thereof is  Surface area a cube= 6*S²* |
| 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.   1. Use the cube alongside and calculate using formulae its: 2. volume 3. surface area.      1. The dimensions of a 3D object are: . Calculate its      1. volume 2. surface area. |