**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 3)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to** describe the interrelationship between surface area and volume of cubes |

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| 1. **RESOURCES:** | Sasol-Inzalo Book 1, DBE workbook 1, textbook. |
| 1. **PRIOR KNOWLEDGE:** | Surface area and volume of a cube |
| 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)   Revise with learners the following work done in lesson 1 by asking them to:  Determine the surface area and the volume of the following 3D shapes in the table.   |  |  |  |  | | --- | --- | --- | --- | | **Name** | **Object** | **Volume** | **Surface Area** | | Cube | 3cm |  |  | | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to: ) |
| **Activity 1**: Worked examples:  Example 1: The table below represents cubes with different dimensions:     1. Complete the table.   Note: Learners should complete the table without the numbers  written in red.   |  |  |  | | --- | --- | --- | | Size of Cube | Volume | Surface Area | | xx |  |  | | xx |  |  | | xx | 27 | 54 | | xx | 64 | 96 | | xx | 125 | 150 | | xx | 512 | 384 |  1. Does the surface area increase or decrease as the length of the side of the cube increases? 2. Does the volume increase or decrease as the length of side of the cube increases? 3. Does volume or surface area increase more rapidly when the length of the side of the cube increases?   Solutions:   1. See the numbers written in red on the table. 2. Yes, the surface area of the cube increases as the length of the   side increases.   1. Yes, the volume increase as the length of the side of the cube   increases.   1. The volume increases more rapidly when the length of the side of the cube increases.   . |  |

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| 1. **CLASSWORK** (Suggested time: 15 minutes)   Consider the table above (i.e. in Activity 1)   1. Which length(s) of the side of the cube will make the volume and surface area the same?      1. Which lengths of the side of the cube will make the volume less than the surface area? 2. Which lengths of the side of the cube will make the surface area less than the volume? |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. **Emphasise that**:   All lengths smaller than 6 units will have the volume smaller than the surface area.  A cube that has length of 6 units will have the same volume as the surface area.  All lengths bigger than 6 units will have the volume bigger than the surface area.   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 Book 1, DBE workbook 1 and/or textbooks for learners’ homework. The selected activities should address different cognitive levels. |