**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 1: January – March**

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

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| 1. **TOPIC: EXPONENTS:** Calculations using numbers in exponential form **(Lesson 4)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to recognise and use the appropriate laws of operations with numbers involving exponents and square and cube roots** |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook 1, Sasol-Inzalo Book 1 |
| 1. **PRIOR KNOWLEDGE** | * represent a number in an exponential form * expanding an exponential number * order of operations * factors * prime factors |
| 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)  * Allow learners to quickly work out solutions to the Activity below. * Thereafter facilitate the discussion of solutions.   **Activities**   1. Write the following in an exponential form: 2. Expand the following exponents: | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  **Learners are expected to:** |
| * Divide learners into small groups * Present the following activities to learners * Instruct learners to work as pairs in a group to answer the questions and compare their answers with the other pairs of the group.   **Activity 1**  **Answer the following question below**  1.1 What number can you square to get 81?  1.2 What number can you square to get 144?   * **Note:** A number that can be squared to give 9 is 3. Therefore 3 is the square root of 9. We write it like:   therefore   * Repeat for 81 and 144 * The sign stands for the square root of a number. We read * as **“** the square root of 9 is equal to 3**”**   **Activity 2**  Say whether the number sentences below are TRUE or FALSE. If FALSE correct the statement.      4. I   **Activity 3**  Simplify the following | * do each activity either as individuals or small groups * participate in discussions * write summary of conlusions drawn during the activities   complete the activity and discuss the answers |
| 1. **CLASSWORK** (Suggested time: 15 minutes) | |
| **Activity 1**  Copy and complete the table below, the first row has been filled in for you.     |  |  |  |  | | --- | --- | --- | --- | | **Say** | **write** | **Repeated multiplication** | **Value** | | The square root of |  |  | 3 | |  |  |  |  | |  |  |  |  | |  |  |  | 12 |   **Activity 2**  Determine the square root of: | |

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| 1. **CONSOLIDATION/ CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. Emphasise that**:**  * the in the is usually left out but you must imagine that it is there. * finding the square root of a number is the inverse operation of squaring a number.      1. 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 Books, DBE workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**   |  |  |  | | --- | --- | --- | | Sasol-Inzalo Book 1 | DBE workbook 1 | Textbook | | Pg 63; No.1-7 & Page 66; No. 4 (a) –(f) | Pg 32 No 2 – 6 |  | |