**MATHEMATICS LESSON PLAN**

**GRADE 8**

**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** establish general law of exponents limited to natural number exponent |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook 1, Sasol-Inzalo Book 1, Calculator, Internet |
| 1. **PRIOR KNOWLEDGE** | * 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)      * Present the following activities to leaners. * Allow learners work as individuals to answer the questions     **Activity 1 [Mental Maths Activities]**  Write down the numerical value of each of the following   1. **= b) = c) = d) =**   **Activity 2**  Complete the following table   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Value of** |  |  |  |  | | **1** |  |  |  |  | | **2** |  |  |  |  | | **3** |  |  |  |  | | **4** |  |  |  |  |   **Activity 3**  Write the following numbers in terms of their factors: | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  **Learners are expected to:** |
| * Introduce laws of exponents through a range of numeric examples first, and then variables can be used. * Present activities 1and 2 to learners and guide them to investigate or establish the law : (   **Activity 1:** Complete the following table. Use any method to calculate the value of each number.   |  |  |  | | --- | --- | --- | | **a** |  | **=** | | **b** |  | **=** | | **c** |  | **=** | | **d** |  | **=** | | **e** |  | **=** | | **f** |  | **=** | | * engage in doing the activities * complete the table |
| **Activity 2:** Determine if the following statements are true or false. If the statement is false, correct it. (Hint: use the table in activity 1 to assist you in answering the question)  What is your observation? Explain and make your own conclusion.  **2.5** Express your findings using variables  Use your argument in ( ) above to make the following statements true  **=**  Address all the misconceptions identified, For Example | * factorise the given numbers * state their observations in words * express their findings in algebraic form |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| * Sasol-Inzalo Book 1: Page 67, No. 4 & 5 * DBE Workbook 1: Page 47, No. 3 |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. **Emphasise that:**  * A product raised to a power is the product of the factors each raised to the same power. Using symbols, we write, where is a natural number, and are not equal to zero. * all the misconceptions identified, for example:  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.  **HOMEWORK**   * Individual activities: Sasol-Inzalo Book 1 page 67 No. 6 * DBE Workbook 1 page 47 No. 4 |