**MATHEMATICS LESSON PLAN**

**GRADE 9**

**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 3)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to** extend the general laws of exponents to include:   * integer exponents |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook 1, Sasol-Inzalo Book 1 | |
| 1. **PRIOR KNOWLEDGE:** | * inverses * laws of exponents | |
| 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. | | |
| **6. INTRODUCTION** (Suggested time: 10 Minutes) | | |
| **Consider the following:**  1. means (The exponent indicates the number of appearances of the repeated factor)  2. The inverse of 4 is . What is the inverse of? (let learners discuss amongst the themselves)  3. , What is the value of? (let learners discuss amongst the themselves) | | |
| **7. LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | | |
| **Teaching activities** | | **Learning activities**  **(Learners are expected to:)** |
| * Consider the following examplesto show learners how to establish the extended general law of exponents   **Example1** :  Therefore  **Example 2**: also  Therefore   * Discuss with the learners more examples on the application of the law: | | * participate by responding to questions asked during lesson presentation * work out the solution for no. (c) in Example 3 |
| **Activity**   1. Calculate the value of each of the following and express the answer as a positive exponent 2. Simplify fully: 3. Which of the following statements are true? Correct any false statement | |  |
| **8. CLASSWORK** (Suggested time: 15 minutes) | | |
| **Sasol-Inzalo Book 1 page 78-79; no. 6(c) & (i) ,7(e) and (f)**    You may also carefully choose the exercises which show different cognitive levels from workbooks and any textbook used in your school. | | |
| **9. CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) | | |
| 1. **Emphasise that**:  * , where is natural numbers and is not zero * misconceptions such as  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 Book 1,DBE workbook 1 and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.   **Homework**  DBE Workbook page 63, No 7 and 8 | | |