**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:** Comparing and representing numbers in exponential form **(Lesson 1)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to** compare and represent integers in exponential form |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook 1, Sasol-Inzalo Book 1 |
| 1. **PRIOR KNOWLEDGE** | * comparing and representing whole number in exponential form * multiplying Integers * comparing integers |
| 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)   NB: Recap on the meaning of power: ; where a is the base and n is the exponent;  e.g  **Activity 1**  1.1 Write in exponential form  1.2 Expand (Write as a product)    2. 69 3. 126   **Activity 2**  Simplify the following  **Activity 3**  Fill in the missing symbol >, =, < represented by the asterisk | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities**  Present activitity1 to investigate the behaviour of signs. Through guided investigation learners are required to note the pattern as they multiply , predict their observations and develop the rule: what happens when a power is raised to an even or odd number  When they have mastered the rule for signs proceed to activity 2 to encpourage fluency in the procedure and address misconceptions  To avoid common misconceptions emphasise :  (2)3  not  13  1 1 1 not 1 3 and facilitate activity 3 to ensure learners have mastered the concept  Consolidate by facilitating activity 4 to ensure learners can order numbers e.g they know , but now in the contexts of exponents of integers | **Learning activities**  **ACTIVITY 1**  1.1 Investigate and state your observations on behaviour of signs   1. )5   1.2 Predict the sign of the numbers below   1. )32 2. )101   1.3 What do you notice, state in your own words what happens to the signs?  **Activity2**  Fill in the missing product, exponent or number to make the statement true:   1. )5   **Activity 3**  State whether the statement is true or false and if false correct it:   1. ( 2. ( 3. ( 4. (   **Activity 4**  Insert the missing symbol: >, = or <   1. )5  (2)3 2. 53  52 15 10 |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| 1. **State whether the following are true or false, if false correct the statement** 2. (5)2 = 10 3. (7)3 = 21 4. **State whether the value is positive or negative** 5. (−5)11 6. (−3)18 7. **Insert the missing symbol >, = or <** 8. (2)2 62 9. 32(2)3  62 10. **Represent the following numbers in exponential form** |
| 1. **CONSOLIDATION/ CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. **Emphasise that** when multiplying negative integers to:  * an even number of times, the answer will always be a positive * an odd number of times, the answer will always be a negative  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**   * Sasol-Inzalo Book 1: Page 59; No. 5, 6 &7 * DBE Workbook 1: Page 31; No. 4, 5, 6 & 8 |