**MATHEMATICS LESSON PLAN**

**GRADE 8**

**TERM 2: APRIL – JUNE**

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

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| 1. **TOPIC: ALGEBRAIC EQUATIONS:** Solving equations using laws of exponents  **(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** extend solving equations to using laws of exponents. |

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| 1. **RESOURCES:** | Textbooks, DBE workbook, Sasol-Inzalo book 1 |
| 1. **PRIOR KNOWLEDGE:** | * Solving simple equations * Exponential laws |
| 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)   Ask the learners to write the following numbers in exponential form:   1. 8 2. 9 3. 25 4. 27 5. 125   Possible answers: | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| Teaching activities | Learning activities (Learners are expected to: ) |
| Remind the learners the following:   * In an exponential equation, the unknown or variable,, is the exponent. For example = 8 is an exponential equation. * The solution of an exponential equation is the value of the exponent that satisfies the equation. In the example = 8, the solution is = 3 because 23 = 8   **Activity**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 0 | 1 | 2 | 3 | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |  1. Use the above table to solve: 2. = 8 | * complete the table      * find the value of using the table |
| 3. Solve for : | * calculate the value of |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| Sasol-Inzalo book 1, Page 172 No. 1-3  Solve for : |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes)   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.  **Home work**  DBE Workbook, Page 77 no. 1 - 7 |
| **ASSESSMENT**  **Question 1**  Circle the correct answer:   1. Solve for x in: x + 6 = 5   **A**  11 **B** 1 **C**  -1 **D** -11   1. Solve for in: + 2 = 7   A 28 B 20 C 36 D   1. Solve for in: 3 – 6 = – 4   **A** 1 **B** -5 **C** 0,5 **D** -2,5     1. If  = -  and  = 4, determine the value of   **A** 25 **B**  26 **C** 73 **D**  49   1. Solve for   **A** 7 **B**  -7  **C** **D**  0  **Question 2**  Solve the following equations:   1. 4 + 8 = 20 2. -3 = -15 3. -2 + 1 = -9 4. = -5   **Question 3**   1. If = 2 + 7 determine if = 3 2. If = -3 – 6 determine if = 2 3. What is the value of if = 5 in the equation = 4- 3 4. What is the value of if = -6 in the equation = - 20   **Question 4**  Solve for :  **MEMORANDUM**  **Question 1**   1. C 2. B 3. A 4. A 5. D   **Question 2**  Solve the following equations:   1. 4 + 8 = 20   4 + 8 – 8 = 20 – 8  4 = 12  =  = 3   1. -3 = -15   =  = 5   1. -2 + 1 = -9   -2 + 1 – 1 = -9 – 1  -2 = -10  - =    = 5   1. = -5   3x ( ) = -5 x 3  -2 = -15  =  =  **Question 3**   1. If = 2 + 7 determine if = 3   = 2(3) + 7  = 6 + 7  = 13   1. If = -3 – 6 determine if = 2   = -3(2) – 6  = -6 – 6  = -12   1. What is the value of if = 5 in the equation = 4- 3     5 = 4 – 3  5 + 3 = 4 – 3 + 3  8 = 4  8 = 4  2=  = 2     1. What is the value of if = -6 in the equation = - 20   -6 = – 20  -6 + 20 = – 20 + 20  14 =  = 14  **Question 4**  Solve for :   1. 121   112      72  2    24  4 |