**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: ALGEBRAIC EQUATIONS:** Solving equations by inspection **(Lesson 2)** |

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| **2. CONCEPTS & SKILLS TO BE ACHIEVED**  **By the end of the lesson, learners should be able to:**   * identify variables and constants in given formulae or equations * solve equations by inspection |

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| **3. RESOURCES:** | Textbooks, DBE workbook, Sasol-Inzalo book 1 |
| **4. PRIOR KNOWLEDGE:** | * simplify expressions * substitute appropriately * solve simple equations |
| **5. 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)  Complete the table below. Then answer the questions that follow.  **You can also do a search by**  **narrowing down the possible**  **solution to an equation.**   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  1. Can you find a solution for in the table? 2. What happens to the values of and as increases? Do they become   bigger or smaller?     1. Is there a point where the value of becomes bigger or smaller than the value of   as the value of increases? If so, between which -values does this happen?    **This point where the two expressions**  **are equal is called the break-even point.**   1. Now that you narrowed down where the possible solution can be, try other possible values for until you find out for what value of the statement is true.     **“Searching” for the solution of an**  **equation by using tables or by**  **narrowing down to the possible**  **solution is called solution by inspection.**  **Explain that the use of the table is to zoom into the break even-point because that is where the value that satisfies the equation is.**  **Conclude the discussion by saying that if you substitute the same value in both expressions on the table and get the same answer (solution) that is solving by inspection because if the two expressions are equated that value satisfies the equation.** | |

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| **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  **(**Learners are expected to**):** |
| **Activity 1**  Explain the following equation to learners:  3 15 0  coefficient variable constant  3 15 0  Terms  **[3 15 0]**  Equation  Give learners the following equations to identify variables, coefficients and constants:   1. 2 40 2. 3 9 18 3. 2 10 50 | * identify variables and constants in equations. |
| **Activity 2**  Give the learners the following exercises to find the values of the variables by inspection and check their solutions:    2. *÷ 512* 3. *3c* | * find value of the variable that satisfies the given equation * check their answers |

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| **CLASSWORK** (Suggested time: 15 minutes) |
| **Choose the letter corresponding to the correct answer**:  1 Martin bought a package of 15 chocolates for R27, 96. He used the equation  15 27, 96 to find the cost of one chocolate, a. The equivalent to this equation is:  A 27,96 – 15  B (27,96) (15)  C 27,96 + 115  D  E 27,96 + 15  2 If 3 – 15 0, then is equal to    A 2  B 3  C 4  D 5  E 6   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  |   3 Which expression is equivalent to 2 + 4 8?  A 2 + 4 4 = 8 4  B 2 + 2 = 4  C 6 = 8  D 2 + 4 4 = 8 + 4  E 2 = 2  4  A  B 1  C  D  5 3 6 = 4  A 1  B 5  C 0,5  D 2,5 |
| **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, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Homework:** Sasol-Inzalo book 1, Page 123 No. 1 (c), (d) and (e). Page 124 No. 1 (a) – (d). |