**MATHEMATICS LESSON PLAN**

**GRADE 8**

**TERM 2: APRIL – JUNE 2015**

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

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| 1. **TOPIC: ALGEBRAIC EXPRESSIONS:** ALGEBRAIC LANGUAGE **(Lesson 1)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **Learners should know and be able to :**   * recognise and interpret rules or relationships represented in symbolic form. * identify variables and constants in given formulae and equations. * recognise and identify conventions for writing algebraic expressions. |

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| 1. **RESOURCES** | Sasol-Inzalo Book 1, DBE workbook 1, textbook. | |
| 1. **PRIOR KNOWLEDGE** | * Variables * Constants * Expressions * Sequences | |
| 1. **REVIEW AND CORRECTION OF HOMEWORK** (suggested time: 10 minutes)   Homework offers 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)   **Activity 1**  Discuss with the learners the terminology used in algebraic expressions using the following activity:   |  |  |  | | --- | --- | --- | | **Verbal description** | **Algebraic expressions** | **Explanation** | | The sum of a number and two | + 2 | sum means addition (+) | | A number that is five more than | + 5 | more than means addition (+) | | The difference between two and a number | or | difference means subtraction () | | A number increased by seven |  | increase means addition (+) | | The product of two and a number | OR 2 | product means multiplication ( ) | | A number that is half the sum of two and three |  | half means to divide by | | The quotient if is divided by two |  | quotient means the answer of a division() | | A number that is decreased by nine |  | decrease means subtraction () | | | |
| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | | |
| **Teaching activities** | | **Learning activities**  **(Learners are expected to:)** |
| **Activity 1**  Divide learners into groups of 4 and let them discuss the following activity.  The rule gives the sequence:  **3; 5; 7; 9 ; 11;…**   1. Explain in your own words how you will determine the next number in the sequence. 2. Which part of the rule is a variable? 3. Which part of the rule is the constant?   **Activity 2**  Consider the rule for the sequence 1; 4; 9; 16 ;.. and answer the following question:  What does the rule mean for the given number sequence?  **Note:**  Learners should recognise that represents the general term, where n represents the position of the term in the sequence. It should be understood as the rule that can be used to find any term in the given sequence. (Different interpretations are allowed)  **Activity 3**  Let the learners complete the following activities in pairs   1. Complete the following table:  |  |  |  | | --- | --- | --- | | Words | Flow diagram | Expression | | Multiply a number by negative seven and add four |  |  | |  |  |  |      1. Interpret the following statement:   The relationship between the brother’s age() and his sister’s age is given as .  **Note:**  The teacher should give learners an opportunity to write and interpret algebraic expresions. In defining or describing the expression the teacher should emphasise the following:  an **expression** is made up of constants and variables, linked by operational signs and does not include an equal sign.  **Activity 4**  Divide learners into small groups. Present the activity on algebraic language to learners.  Write these algebraic expressions in conventional form   1. ; ; 2. times four 3. two thirds of . 4. add the sum of and to the product of and . 5. add twenty one to the product of a number and twenty four . 6. the difference between two hundred and one-hundred-and-thirty-three. 7. divide a number by four and subtract nine from the answer. | | * complete the table. * use their own words to present their findings and justify their conclusions. * engage discussions to determine the answers for activity 3   in group |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| Sasol-Inzalo Book1, pg. 117, no. 1  DBE Workbook 1, pg 63, no. a – c |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. **Emphasise that**:  * an algebraic expression indicates a sequence of calculations that can also be described in words or with a flow diagram. * the flow diagram indicates the order in which the calculations must be made. * in algebraic language the multiplication sign is usually omitted, e.g. We write instead of and we also write 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 Books, DBE workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework:**  Sasol-Inzalo Book 1, pg. 107, no. 2 (a and b); pg. 117, no. 3, 4.  DBE Workbook 1, pg. 63, no. d, e |