**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 1: January – March**

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

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| 1. **TOPIC: WHOLE NUMBERS: Properties of whole numbers (Lesson 2)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should be able to:**   * Recognise and use the commutative, associative and distributive properties of whole numbers * Recognise and use 0 in terms of its additive property (identity of element for addition) * Recognise and use 1 in terms of its multiplicative property (identity element for multiplication) |

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| 1. **RESOURCES:** | Sasol-Inzalo Book, DBE workbook 1, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Ordering and comparing of whole numbers * multiplication table up to at least 12 × 12 |
| 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. | |

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| 1. **INTRODUCTION** (Suggested time: 10 Minutes)   Revise the concepts using Mental maths type questions to include:   * Multiplication tables up to 12 x 12 * The commutative, associative and distributive properties of whole number * Use addition and subtraction as inverse operation * Use multiplication as inverse operations * use 0 in terms of it addition property * use 1 in terms of multiplicative property |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to: |
| Group learners into small groups. Give them activities like the ones below to work out and discover the commutative, associative and distributive properties. Ask them to compare the answers in each case and present their observations.   1. The *commutative property* of addition and multiplication:   is the same as  is the same as  **Activity 1**  Consider the six expression below:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |   For each question below write true if it is equivalent and false if it is not equivalent to one of the above expression.   1. 2 + 3 2. 3 x 8 3. 4 x 5   4. 8 + 2 5. 5 + 4 6. 2 + 5   1. The *associative property* of addition and multiplication 2. (5 + 2) + 7 = \_\_\_\_\_ is the same as 5 + (2 + 7) = \_\_\_\_\_ 3. (3 x 4) x 2 = \_\_\_\_\_ is the same as 3 x (4 x 2) = \_\_\_\_\_   **Activity 2**  For each question write EQUAL to or NOT EQUAL to in order to make the sentence true.   1. 12 + 4 + 7 is \_\_\_\_\_\_\_\_\_ 4 + 12 + 7. 2. 5 x 9 x 8 is \_\_\_\_\_\_\_\_\_\_\_ 8 x 5 x 9 3. 6 x 10 x 14 x 9 is \_\_\_\_\_\_\_\_\_\_ 10 x 6 x 6 x 14 4. 25 + 17 + 8 + 34 is \_\_\_\_\_\_\_\_\_\_\_ 17 + 34 + 8 + 25 5. 3 x 7 + 13 x 4 + 9 is \_\_\_\_\_\_\_\_\_\_\_\_ 9 + 4 x 13 + 3 x 7 6. Distributive property of multiplication over addition and subtraction     is the same as  is the same as  **Activity 3**  Simplify the expression below   1. 10(4 + 5) 2. 12(5 – 2) 3. 11(7 + 11) 4. 6(9 + 2) 5. 8(24 – 12) 2. 3(50 – 25) 7. 9(63 – 52)   Explain to the learners the following  The multiplicative property of 1  Theidentity element for multiplication is **1.** This means that any number multiplied by 1 equals the same number.  e.g. 5 x 1 = 5 100 x 1 =100    The additive property of 0  The identity element for addition is 0. This means that any number plus 0 equals the same number.    Activity 4  Fill in the missing number. Use the identity property   1. 60 813 \_\_\_\_\_\_\_\_ = 60 813 2. 5 950 + 0 = \_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_ + 12 380 = 12 380 4. 1 = 123 000 | * Learners engage in group discussions to determine the answers of each pair of activities. * Learners record their answers and make conclusions about their observations.   **Example** of the possible answer: 5 + 4 = 9 and 4 + 5 = 9, but 5 – 4 =1 and 4 – 5 = -1.   * Learners engage in group discussions to determine the answers of each pair of activities. * Learners record their answers and make conclusions about their observations |

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| 1. **CLASSWORK** (Suggested time: 15 minutes |
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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. **Emphasis that**:  * The commutative property refers to switching numbers when adding and multiplying. Changing the order of the numbers in addition or multiplication expressions will not change the answer * The associative property refers to grouping numbers, and again this only applies to addition and multiplication. How all the numbers are grouped together in addition and multiplication expression will not changes the answer * The distributive property refers to how numbers behave when an expression has multiplication together with addition or subtraction. The answer remains the same whether you do the addition or multiplication first. We use this particularly when simplifying expressions that include brackets.   Notice the two interchangeable operations in each.   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, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**:   |  |  |  | | --- | --- | --- | | Sasol-Inzalo Book | DBE Workbook | Textbook | |  | Pg 6 No 1 – 4 and pg 8 No 1 - 6 |  | |