**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 4: October – December**

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

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| 1. **TOPIC: FUNCTIONS AND RELATIONSHIPS:** Input and output values **(Lesson 1)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to** determine input values, output values or rules for patterns and relationships using:  -flow diagrams |

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| 1. **RESOURCES:** | Sasol-Inzalo Book 2, DBE Workbook 2, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * functions and relationship * patterns * 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)   Let learners complete this activity in groups.  **NB**: The focus in term 4 is to work with integers as input, output values or in rules.  Activity 1  Work out the following activities with learners.  **NB**: The purpose of the activity is to revise integers to check their understanding as the focus on functions and relationship is on integers. | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| Do the first activity with learners and let learners work in pairs.  **Activity 1**  Consider the relationship: Output input   1. Explain the relationship in words. 2. Complete the flow diagram below to find the output values for the following input values:   - 5  - 3  - 2  2+ (- 1)  - 1  0  Input value  Output value  Rule      **NB:**   * The flow diagram indicates the order in which calculations must be done**.** * Emphasise that 2 refers to 2 multiplied by the input. * Therefore developing the skill of substitution and operations with integers is key.   **Activity 2**  Answer the following questions based on the flow diagram below.   1. Use number sentences to find all the output values. 2. Complete the flow diagram 3. Use to represent the input and n for the output values. 4. Then write the formula of the relationship to show the relationship between m and n.   -2  0  1  -3  -1  Input ()  Rule  Output () | * work in pairs on the activity. * share their solutions with the whole group. |

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| **CLASSWORK** (Suggested time: 15 minutes) |
| Calculate the values of for each value of where is a decimal fraction. Use the given rule in the flow diagram.  Input  Output  0,1  0,2  0,3  0,4 |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:  * a relationship between two variables consists of two sets of numbers, the input and output numbers. The first row in a flow diagram contains the input numbers and the second row contains the output numbers * the way in which an output number can be calculated is called the rule for the relationship. * the rule can be described in words or with a formula, and in some cases with a flow diagram. * the flow diagram indicates the order in which calculations must be done**.**  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 2, page 145 No. 1-2 and page 146 No 3-4. |