**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 2: April – June**

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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 1, DBE Workbook 1, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * input and output values * patterns * whole numbers |
| 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 the following activity in pairs   1. Consider each situation below and state whether one quantity will influence the other quantity. Also say whether there is a relationship in the situation. 2. The number of calls you make and the amount of airtime left on your cell phone. 3. The number of houses to be built and the number of bricks required. 4. The number of periods at a school and the duration of a mathematics period.      1. In the flow diagram below indicate the input, a rule and output values.   5    3  7  9  11  13 | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to :) |
| Give learners the following activity to work in pairs. Do the first activity with learners.  **Activity 1**  Consider the arrangement below and answer the questions that follow in pairs.     1. How many yellow (light) squares are there if there is only one red(dark) square? 2. How many yellow squares are there if there are two red squares? 3. How many yellow squares are there if there are three red squares? 4. What is the relationship between the yellow and red squares? 5. Represent the geometric pattern above using a flow diagram. 6. Discuss and then write the rule of the above flow diagram in words.   **NB:** Emphasise the relationship between the yellow and red squares in terms of input and output values.  **Activity 2**  Let learners work individually.  Use the given rule to calculate the output values.  input value  Rule  Output value        Present and consolidate by writing the correct answers on the chalkboard.  **NB**: A flow diagram consists of input values, rule and output values.  The output values depend on the input values and the function. | * work in pairs to answer the questions on the arrangement of squares.      * share with the group on how they have worked out their solutions. * work individually in finding the output values. * show all the processes involved in their calculations * discuss and share their calculations in pairs**.** |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| 1. DBE workbook page 110 -111 No. 1a, 2a and 2b. 2. Calculate the values of for each value of where is a decimal fraction. Use the given rule.   0, 1  0, 2  0, 3  0, 4  Input value  Output value    Rule |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:  * A flow diagram consists of input values, rule and output values. * The output values depends on the input values and the function.  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, page 210 No. 1. (a) - (f). |