**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 2) |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should know and be able to** determine the input values, output values and rules for patterns and relationships using:  - tables.  -formulae |

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| 1. **RESOURCES:** | DBE workbook 1, Sasol-Inzalo book 1, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * flow diagrams * whole numbers * common and decimal fractions * properties of rectangles |
| 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) |
| Divide learners into small groups. Give them A4 sheets of papers  Activity   * Ask all groups to fold their papers into 6 folds or more. * Show learners how to fold the paper. * Let learners record their findings in a table where the input will be the number of folds and the output will be the number of rectangles formed.   **Note**: Input represents number of folds and output represents number of rectangles formed.   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Input (number of folds) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | Output (number of rectangles) | 2 | 4 | 8 |  |  |  |  |  | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| Learners work in groups on the following activities.  **Activity 1**  Ask learners the following questions based on the activity done during the introduction.   1. Fill in the table for each fold the group was unable to do, up to the 10th fold.    1. Explain in your own words how to get the number of parts or the outputs for each fold not done.  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Input | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | Output | 2 | 4 | 8 | 16 | 32 | 64 |  |  |  |  |   **NB:** Explain or emphasise that the relationship between the input and output values can also be shown in a table. | * answer the questions given, in their respective groups * present their findings to the whole class * answer the questions given, in their respective groups. * present their findings to the whole class |
| **Activity 2**  2.1 Let learners draw a table and show the relationship between the ages of Tumi (t) and Nandi(n) for the next 5 years if Tumi is 10 years old while Nandi is 5 years old.  **Note well**: Nandi’s age represents the input and Tumi’s age represents the output.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Input( Nandi) | 5 | 6 | 7 | 8 | 9 | 10 | | Output ( Tumi) | 10 |  |  |  |  |  |   2.2 Describe the rule in words  2.3 Write down the formula  = +5, where is the input or Nandis age and is the output or Tumis age. |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| In each of the tables below:   1. Describe the relationship shown in each table in your own words. 2. Write the relationship down as a rule. 3. Use the rule to complete the tables.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input | 1 | 2 |  | 4 |  | | Output | 6 | 12 | 18 |  | 30 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input( ) | 1 | 2 | 3 | 4 |  | | Output ( ) | 0 | 3 | 8 |  | 24 | |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. **Emphasize that**: -A relationship between input and output values represented in a flow diagram and formula can also be represented in a table. 2. **Homework**   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**:  DBE workbook 1, page 114 , No. 1(a) – (e) |