**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: NUMERIC AND GEOMETRIC PATTERNS**: Numeric patterns**(Lesson 1)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should be able to :**   * Investigate and extend numeric patterns looking for relationships between numbers, including patterns: * limited to sequences involving a constant difference with integers. * of learners’ own creation |

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| 1. **RESOURCES:** | DBE workbook 2, Sasol-Inzalo book 2, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Functions and relationships * Numeric patterns with whole numbers * Algebraic language * 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. | |

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| 1. **INTRODUCTION**(Suggested time: 15 Minutes)   Ask learners to complete the activity below:  **Revision activity**   1. Extend the patterns below by writing down the next three terms. 2. 6; 11; 17; \_\_\_; \_\_\_\_; \_\_\_\_ 3. 4; 8;16; \_\_\_; \_\_\_\_; \_\_\_\_ 4. 1; 4; 9; \_\_\_; \_\_\_\_; \_\_\_\_ 5. Write the general rule for the pattern and calculate the10th term in each   **Note:** When learners can describe the general rule for the patterns with whole numbers and to predict any term in the pattern, they are ready to move on to patterns with integers.  **Note:** Encourage the learners to use their own words to explain how they got the next term |

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| 1. **LESSON PRESENTATION/DEVELOPMENT**(Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| Activity 1   1. What is the constant difference in the sequences below? 2. ; \_\_\_\_; \_\_\_\_; \_\_\_\_ 3. \_\_\_\_; \_\_\_\_; \_\_\_\_ 4. ; \_\_\_\_; \_\_\_\_; \_\_\_\_ 5. \_\_\_\_; \_\_\_\_; \_\_\_\_ 6. \_\_\_\_;\_\_\_\_;\_\_\_\_ 7. Write down the next 3 terms in each sequence above. 8. Write down how you got the next term in own words 9. Write down the letters of the increasing and decreasing sequences. 10. Compare the constant differences of increasing patterns to those of decreasing patterns   Note: After learners have given their explanations, consolidate as follows:  **Pattern C : Increasing**  6  4  2  2  2  2  **Pattern E: Decreasing**  7  2  3  3  3  Use the illustration such as the one above to explain to learners that a pattern is said to be   * **increasing ,** if the **constant difference** is **positive** * **decreasing,** if the **constant difference** is **negative**   Explain to the learners that if patterns are not represented in tables, the term which appears **first** in the pattern is the **first term,** unless stated otherwise. | * Complete the work, as individuals |
| **Activity 2**   1. Make patterns up to the 6th term from the rules below and indicate whether they are increasing or decreasing 2. Add 3, starting at 25 3. Add 3, starting at 25 4. Add 4, starting at 25 5. Add 5, starting at 6. The first term of a sequence is 17 and the constant difference is 5, write down the next 6 terms   Choose any number to be your first term and another one to be your constant difference, and thereafter create your own decreasing pattern. |  |

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| 1. **CLASSWORK**(Suggested time: 10 minutes) |
| **Note:** Give the learners different number patterns to extend.  Activity   1. Extend the pattern by writing down the next three terms.   5; 7; 9; \_\_\_; \_\_\_\_; \_\_\_\_   1. Write down how you got the next terms in the above pattern, in own words 2. The first term of a sequence is 12 and the constant difference is 6, write down the next 6 terms. |

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| 1. **CONSOLIDATION/CONCLUSION& HOMEWORK (Suggested time: 5 minutes)** |
| Emphasise that to extend a pattern, look for constant difference between the terms and add it to get the next term.  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-Inzalobooks, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**:   1. What is the constant difference in the sequences below?   15;9;3; 3; 9; 15 …   1. Write down the next 3 terms in 11; 7; 3; \_\_\_\_; \_\_\_\_; \_\_\_\_   .   1. Write down how you got the next term of the sequence above in own words |