**MATHEMATICS LESSON PLAN**

**GRADE 8**

**TERM 2: APRIL – JUNE**

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

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| 1. **TOPIC: ALGEBRAIC EXPRESSIONS:** EXPAND AND SIMPLIFY ALGEBRAIC EXPRESSIONS **(Lesson 7)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should be able to** use commutative, associative distributive to determine the squares, cubes, square roots and cube roots of single algebraic term or like terms. |

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| 1. **RESOURCES:** | DBE workbook, Sasol-Inzalo workbook, calculator, textbook |
| 1. **PRIOR KNOWLEDGE** | * squares * cubes * square roots * cube roots. |
| 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) |
| Ask the learners to give the mathematical meaning of the following concepts and provide examples of it:  square, cube, square root and cube root   * A **square number** is a number that you get when a number is multiplied by itself once e.g. . Therefore 16 is a square number. * The **square root** is a value that multiplies by itself once to give the original number   e.g. . Therefore    **Note:**  Discuss the following misconceptions with the learners:  not           * A **cube number** is a number you get when a number is multiplied by itself two times e.g. . Therefore 27 is a cube number * A **cube root** is a value that multiplies by itself two times to give the original number   e.g. . Therefore |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities (Learners are expected to:)** |
| Let the learners complete the following activities individually:  **Activity 1**  Determine the value of each without the use of a calculator:  a) b) c)  d)  Discuss the following with learners and with their assistance complete the activities   * The square root of a product of square numbers is equal to the product of the square roots   e.g.       * Discuss the misconceptions with learners.   The square of the sum of square numbers is not equal to the sum of the square roots.       * The square of the difference of square numbers is not equal to the difference of the square roots.        * The square root of a quotient of square numbers is equal to the quotient of the square root. | * complete the activity individually * engage in class discussion on the solution to the problems * follow teachers explanations * engage in discussions with the teachers |
| **Activity 2**  Demonstrate the following problems to learners.      = |  |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| **Activity 1**   1. Simplify the following   5. Say whether the equation is true or false. Give a reason for your answer. 6. Simplify the following: |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. **Emphasise that:**      * squaring and finding square roots are inverse operations. * if you want to find the square root of you need to find out what you need to multiply by itself to get . The answer is , because ( Therefore = * in this grade square root of a negative number cannot be determined, because there are no equal numbers that will give you a negative. and and are two different numbers. * to find the cube root you need to multiply the number by itself twice. To find the cube root of you need to find out what need to be multiplied twice with itself to get . Thus = 3a * you can find the cube root of a negative number because you can multiply a negative number by itself twice and get a negative answer. = =  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:**  Simplify the following |