**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 3: July – September**

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

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| 1. **TOPIC: ALGEBRAIC EQUATIONS**: Number Sentences **(Lesson 3)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED: Number Sentences**   By the end of the lesson, learners should know and be able to solve and complete number sentences by:  - inspection  - trial and improvement |

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| 1. **RESOURCES:** | DBE workbook 2, Sasol-Inzalo book 2, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Writing number sentences to describe problem situations |
| 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) | |
| The teacher introduces the lesson by giving learners a problem statement that they have to:   1. convert to a number sentences and then 2. solve using trial and improvement. 3. solve using inspection   **Example:**   1. A number increased by 2 is equal to 4.   The number sentence is   1. **Inspection**   We can use another method to find the solution i.e. solving the number sentence by inspection. By inspection, we solve the problem **mentally**.   |  |  | | --- | --- | | Do the same operation on the LHS and RHS | Number sentence/equation | |  | For which is | | Subtract 2 |  | | Check the solution | LHS = RHS |  1. **Trial and improvement**   In trial and improvement, we solve the problem by substituting the value of the unknown until we find the correct answer.  Let the value of  Check:  LHS: [Incorrect answer , on the RHS]  Let the value of  Check:  LHS: [Correct answer. , on the RHS | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| NOTE:   * There are different ways of solving number sentences or algebraic equations * Our main focus is on solving number sentences by:   + Inspection and   + Trial and improvement   **By inspection (mental mathematics)**   * Inspection involves mental processes. e.g.  1. can be read as “What number, when you add 4 to it, makes 10?”   We can see the number is 6.   1. x can be read as “What number, when doubled and subtracted from 8, makes 4?”   We know 8 – 4 = 4 (or 4 = 8 – 4), so and | * Work in small groups * Provide solutions to given activities |
| Another method of solving equations by inspection is shown below.  **Example:**   1. Solve the following number sentences by inspection.   To check whether a given value is the solution or not, we have to answer the following question in your **mind**. **Does the given value make the equation true?** It is does we say it is the **solution**.   |  |  | | --- | --- | | Do the same operation on the LHS and RHS | Number sentence/equation | |  | For which is ? | | Subtract 8 |  | | Divide by 4 |  | | Check the solution |  |  |  |  | | --- | --- | | Do the same operation on the LHS and RHS | Number sentence/equation | |  | For which is ? | | Subtract |  | | Divide by 2 |  | | Check the solution |  |  |  |  | | --- | --- | | Do the same operation on the LHS and RHS | Number sentence/equation | |  | For which is | | Add 7 |  | | Divide by 5 |  | | Check the solution |  |  |  |  | | --- | --- | | Do the same operation on the LHS and RHS | Number sentence/equation | |  | For which is ? | | Subtract 1 |  | | Multiply by 4 |  | | Check the solution |  | | . |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| **Activity**   1. Consider the equation given below. Check whether the value given in brackets is the solution. Simply write **yes** or **no** with an explanation.    1. (    3. (   Consider the equation . We need to assign values to until we find a value that makes the equation true, as shown in the table below.   |  |  |  | | --- | --- | --- | |  | EQUATION | TRUE/FALSE | | Let |  | False | | Let |  | False | | Let |  | False | | Let |  | True |   So because   1. Determine the value of that makes the equation true by making use of the trial and improvement method.  |  |  |  | | --- | --- | --- | |  | EQUATION | TRUE/FALSE | |  |  |  | |  |  |  | |  |  |  | |
| 1. Consider the equation . Use the trial and improvement method to find the solution of the equation.  |  |  |  | | --- | --- | --- | |  | EQUATION | TRUE/FALSE | |  |  |  | |  |  |  | |  |  |  | |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:  * There are different ways of solving number sentences or algebraic equations * Our main focus this year is on solving number sentences using:   + Trial and improvement and   + Inspection * To check whether a given value is the solution or not, we have to answer the following question in your **mind**. **Does the given value make the equation true?** It is does we say it is the **solution**.  1. 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, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**:   1. The number sentences given below are not true. Make the number sentences true by changing the numbers in bold. 2. Find the value of the unknown that make the equation true in each case: 3. In each case, fill in the table until you can see for what value of x the equation given above the table is true. You may add more x values of your own choice. To save time and work, you may skip columns that you think will not help you to find the solution.  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | 1 | 10 | 5 | 6 | 7 | 8 |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | 1 | 10 | 5 | 6 | 7 | 8 |  |  | |  |  |  |  |  |  |  |  |  | |