**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: INTEGERS:** CALCULATIONS WITH INTEGERS **(Lesson 6)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should be able to :**   * Add and subtract with integers |

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| 1. **RESOURCES:** | DBE workbook 2, Sasol-Inzalo book 2, Textbooks, number line |
| 1. **PRIOR KNOWLEDGE:** | * addition of integers * additive inverse |
| 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)   **Activity**  Allow learners to work in small groups in order to answer the questions that follow.  1. Calculate:  (a) 80 (60) 20  (b) 500 (−200) (−200) 100  2. (a) Do you agree that 20 (−5) 15? Yes  (b) What do you think 20 (−5) should be? Learner’s responses will differ  3. (a) Is 100 (−20) (−20) 60, or does it equal something else? It is equal to 60.  (b) What do you think (−20) (−20) should be equal to? 40 |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| Divide learners small groups  **Activity 1**  **Note:** for this activity, use the same number line that you made and used to play a game on addition of integers in lesson 4.This lesson can be done in the hall or in an open space since it requires a lot of space, as you did with lesson 4.  Divide learners into small groups   * Give each group a hand-made number line with intervals and * Allow learners in each group to place the number line on the floor and they must stand around it.   Use the following expressions and play a game with the learners guided by the instructions that follow:  Calculate:   1. 11 (8) 2. 10 (10) 3. 4 (-5) 4. 4 (2) 5. 4 – (2) 6. 7 ( 2) 7. 1 (4) 8. 6 ( 5)   How the game is played?  **Note:** remind learners the difference between an operation sign and an integer sign (see lesson 4 if necessary). Allow learners to copy down expressions above from the board before they move out or make copies of the above expressions and give them in the form of the worksheet before you leave the classroom.  Let’s play the game:  The positive operation sign tells us to move forward  The negative operation sign tells us to move backward  The sign of the integer tells us to turn left or right depending on the expression e.g. in the example below :  4 (3)   * Starting from the origin, move 4 steps towards the left and stop at 4 facing the front. * The negative integer sign tells us to change the direction and face left and the negative operation sign tells us to move backward 3 times. * Where do you lend?   **You should lend at 1**  4 (3)   * Starting from the origin, move 4 steps towards the left and stop at 4 facing the front. * The positive integer sign tells us to change the direction and face right and the negative operation sign tells us to move backward 3 times. * Where do you lend?   **You should lend at 7**    **Note:** ask learners to conclude – they should be able to see that subtracting a positive integer from an integer, is the same as adding its additive inverse as indicated on the number line below:  .  http://www.softschools.com/math/topics/images/subtracting_int_img1.png  Once this has been concluded, learners may be asked to use that fact (subtracting a positive integer from an integer, is the same as adding its additive inverse) and rewrite the expressions above and see if they will arrive at the same answer. It is important to highlight while playing the game that subtraction is the inverse operation of addition. This was seen in the games that were played in these two lessons that if in lesson 4 you moved forward then in lesson 6 you move backwards because in lesson 4 integers were added and in this lesson integers are subtracted. | * Work out answers to the questions. |
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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| Calculate:   1. 2 (−1) 2. 2 (−2) 3. (−7) 2 4. (−7) 1 5. (−7) 0 6. (−7) (−1) 7. (−7) (−2) |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:  * subtracting a negative integer has the same effect as adding the additive inverse. If we stick to this agreement, the following two calculations should have the   same answer: 10 − (−7) and 10 7   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, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**:  Sasol – Inzalo Book 2 – page 130 no 7 |