**MATHEMATICS LESSON PLAN**

**GRADE 8**

**TERM 1: January – March**

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

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| 1. **TOPIC: WHOLE NUMBERS: Calculations with whole numbers (Lesson 2)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson learners should know and be able to:-**  Use a range of strategies to perform and check written and mental calculations with whole numbers including:   * estimation * adding, subtracting and multiplying in columns * long division * rounding off and compensating * using a calculator |

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| 1. **RESOURCES:** | Textbooks, DBE Workbook, Sasol-Inzalo Book, Calculator. | |
| 1. **PRIOR KNOWLEDGE:** | * Calculation techniques with whole numbers as done in Grade7. * Use addition and subtraction as inverse operations. * Use multiplication and division as inverse operations. | |
| 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) | | |
| Revise the concepts using Mental maths type questions to include :   * estimation * rounding off and compensating * multiplication tables up to   Example: | | |
| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | | |
| **Teaching activities** | | **Learning activities**  **(Learners are expected to :** |
| Calculations:  Estimation, rounding off and rounding off and compensating:  The teacher instructs learners to try to give answers the answers without doing any calculations with the given numbers.  1. (a) Is more than 2 000 or less than 2 000?  (b) Is more than 3 000 or less than 3 000?  (c) Is more than 3 000 or less than 3 000?  NB: Calculators may be used when Learners check the solutions and when calculating big and unwieldy calculations. | | Learners first think about the answers individually and then discuss their answers in pairs. They justify their answers. |
| The teacher leads the discussion ensuring maximum participation and guiding learners. The teacher wraps up the activity by informing the learners that what they did when they gave the answers to the above is called estimation. To estimate is to try to get close to an answer without actually doing the required calculations with the given numbers. | | The whole class engages in the discussion. |
| 2. Ask learners to use calculators to find the exact answers for the calculations in question 1. | | Learners use calculators to find the exact answers to question 1. |
| 3. Let them calculate the **error** in their approximation of each of the answers in question 1.  Explain to learners that the difference between an estimate and the actual answer is called the **error**. Calculating with “easy” numbers that are close to the given numbers is a good way to obtain approximate answers, for example:  To approximate 764 + 829 one may calculate 800 + 800 to get the approximate answer1 600, with an error of 7. | | Learners calculate the difference between the estimated answer and the calculated answer. |
| 4. Let learners’ complete no.1 and 2 on page 9 of the Sasol-Inzalo workbook. | | Learners complete no.1 and 2 of the Sasol-Inzalo workbook. |
| **Basic Operations:**  **Let learners do context free calculations and solve problems in contexts**  Explain that numbers can be added or subtracted by thinking of their **parts** as we say the numbers in words. For example, we say 4 994 as *four thousand nine hundred and ninety-four*.  This can be written in expanded notation as 4 000 + 900 + 90 + 4.  Similarly, we can think of 31 837 as 30 000 + 1 000 + 800 + 30 + 7.  31 837 + 4 994 can be calculated by working with the various kinds of parts separately. To make this easy, the numbers can be written below each other so that the units are below the units, the tens below the tens and so on.   1. Let learners use the column method to calculate the following: 2. 2 356 + 67 554 + 34 555 3. 56 185 – 23 498 4. 161 x 25 | | Learners do calculations and mark along with the teacher in order to check their methods |
| 1. Let learners use the long division method to solve the following first as individuals and then ask for feedback. Give them a chance to explain their thinking and give support if necessary: 2. 12 679 ÷ 8 3. Graham bought 64 goats, all at the same price. He paid R5 440 in total. What was the price for each goat?   Calculations are done on the board and learners compare their answers. Errors and misconceptions get cleared up as far as possible. | | Learners work on the given problems as individuals and share their solutions with the whole group. |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) | | |
| Carefully choose the exercises which show different cognitive levels from Sasol-Inzalo workbooks, DBE workbooks and any textbook used in your school. The following are some of the questions that can enhance understanding of the calculations with whole numbers:   1. 9 500 ÷ 364 2. Mary has R2 850 and she wants to buy candles for her sister’s wedding reception. The candles cost R48 each. How many candles can she buy? 3. 6 boys each contribute R155.50 towards the purchase of a tent. Calculate how much each would contribute if there were 10 boys in the group. | | |
| Sasol-Inzalo Book 1 | DBE Workbook 1 | Textbook |
| Page 10 no. 1b | Page ii no. 3c and 4b |  |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) | | |
| 1. Emphasise that:  * calculators can only be used to check answers. * they should judge the reasonableness of their solutions e.g. estimate by rounding off; estimate by doubling or halving as well as check their answers using the inverse.  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 workbooks, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework: Sasol Inzalo Book**  p. 9 No. 2a-b   * The *commutative property* of * to addition and subtraction | | |