**MATHEMATICS LESSON PLAN**

**GRADE 7**

**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: Solving problems (Lesson 7)** |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should be able to:**   * Compare two or more quantities of the same kind (ratio) * Compare two quantities of different kinds (rate) * Sharing in a given ratio where the whole is given |

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| 1. **RESOURCES:** | DBE workbook 1, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Multiples of 2 – digit and 3 – digit whole numbers * Multiplication and division of whole numbers * HCF of numbers * Conversion of units |
| 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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| * **INTRODUCTION** (Suggested time: 10 Minutes)   Revise the concepts using Mental maths type questions to include:   1. Find the HCF of 20 : 50 2. Find the HCF of 3 : 6 : 12   Solutions:   1. 10 2. 3 |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to: |
| Activity 1  Explain that ratio is the comparison between two or more quantities of the same kind.  Example  Double a recipe: If I need 2 cups of flour for a cake that serve 8 people, I will need 4 cups of flour for a cake that serves 16 people. (We double both amounts)  Solution: 2 : 8 or 4 : 16 or or or 25%  Therefore we can write a ratio in different ways:   1. As a fraction e.g.  **or** 2. Next to each other with a colon in between: **2 : 8 or 1 : 4** 3. As a percentage: **25%**   **Example 1**: **SIMPLIFYING A RATIO**  Explain that ratio can be written in its simplest form. We simplify ratios by dividing both quantities by the same factor.  **Jabu gets 85% for his test and Musa gets 75%**   |  |  | | --- | --- | | Write the ratio in words | Musa’s mark: Jabu’s mark | | Write the ratio mathematically. (the ratio is not in its simplest form) |  | | To simplify, divide both quantities by the HCF (17). Then write the final answer |  |   **Write each ratio in its simplest form.**   1. 110 : 50 2. 1 000: 400 : 800 3. 16 ; 48 ; 28   Activity 2  A sum of money that has to be shared among a number of people.  Divide R45 360 between Pule, Amanda and Palesa according to the ratio 4 : 3 : 2   |  |  | | --- | --- | | How many parts are there in total? |  | | How large is one part? |  | | How large are the other parts? | Pule:  Amanda:  Palesa: | | Write the final answer as a full sentence. | Pule receives R20 160  Amanda receives R15 120  Palesa receives R10 080 |   How large will each part be if it is divided as follows   1. 150 cm into the ratio 4 : 1 2. R250 000 into the ratio 2 : 8 3. A sport club has 520 members. The ratio of male to female members is 6 : 7. How many members are male?   Activity 3  If you take 6 and increase it in the ratio 3 : 2 the answer is 9. This can be expressed as follows: **New number: old number = given ratio**  Solution: 9 : 6 = 3 : 2  To increase 6: = 9  If you take 9 and decrease it in the ratio 2 : 3 the answer is 6. This can be expressed as follows: New number: old number = given ratio: 9 : 6 = 2 : 3  To decrease 9:   1. Increase 48 in the ratio 7 : 4 2. Decrease 144 in the ration 3 : 9  |  |  | | --- | --- | | Increase 48 in the ratio 7 : 4 | Decrease 144 in the ratio 3 : 9 | | Start by writing the formula and then filling in the information that you know.    Simplify: | Start by writing the formula and then filling in the information that you know.    Simplify: |   Activity 3   1. Decrease 64 in the ratio 8 :16 2. Increase 81 in the ratio 8 : 3   **RATE**  Explain that rate is the comparison of two quantities of different kinds.  Speed in kilometres per hour (km/h)  Rainfall in millimetres per day (ml/day)  Activity 1  Calculate the rate described in the following situations.   1. The athlete ran the 200 m race in 25 seconds   How fast did he run in metres per seconds?   1. My refrigerator uses 1 200 Watts of electricity in 24 hours. What is the rate electricity use per hour?   Solutions:  Activity 2  Calculate the rate per unit rates   1. 2 500 m travelled in 50 s 2. 396 sweets shared between 4 friends 3. R960 for 80 litres of petrol   Activity 3  Solve the following problems   1. On a highway, Nthabiseng travels at a speed between two rest stops. It took her hour (1) and 30 minutes to travel the distance. How far apart are the two rest stops?   We use the following formulae to calculate speed, distance and time.  Time (h) = distance speed (  Distance = speed (km/h) time (h)  Speed = distance ( time (h)    Solution: Distance = speed (km/h) time (h) | * discuss in pairs and give their example * Work, in pairs and give and discuss the answer * Listen, ask questions and work out their examples * work out their answer and discuss them * Work, work in pairs and discuss the answers |

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| 1. **CLASSWORK** (Suggested time: 15 minutes |
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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasis that:  * a ratio compares two or more quantities expressed in the same unit * a rate gives the quantity in one part. The unit are different and we usually use per or /  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. |