**MATHEMATICS LESSON PLAN**

**GRADE 9**

**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: Multiples and factors (Lesson 3)** |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **Learners should know and be able to** use prime factorisation of numbers to find LCM and HCF |

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| 1. **RESOURCES:** | Textbooks, DBE Workbooks and Sasol-Inzalo Books | |
| 1. **PRIOR KNOWLEDGE:** | * The concept of multiples and factors done in grade 8 * Classify numbers as even, odd or prime | |
| 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.  **6. INTRODUCTION** (Suggested time: 10 Minutes  1. Revise the concept of multiples by asking learners to list multiples of 2 less than 20  and 3 less than 45  2. Revise the concepts of factors by asking learners to list factors of 20 and 45.  3. Revise the concept of prime numbers by asking learners to list prime numbers less than 45. | | |
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| **7. LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | | |
| **Teaching activities** | | **Learning activities**  (Learners are expected to:) |
| 1. Define the concept of LCM and HCF.   The LCM is the lowest multiple that is common to two or more numbers.  The HCF is the highest factor that is common to two or more numbers.  **F20 = 1, 2, 4, 5, 10, 20 Prime numbers: 2, 5**  **F45 = 1, 3, 5, 9, 15, 45 Prime numbers: 3, 5**   1. Demonstrate to learners how to determine the LCM and HCF of two numbers using prime factors.   **Example 1:** Find the LCM and HCF of 20 and 45.  **Solution**  20 = 2 x 2 x 5 = x 5 20 = 2 x 2 x 5 = x 5  45 = 3 x 3 x 5 = x 5 45 = 3 x 3 x 5 = x 5  LCM = 5 x x HCF = 5  = 180    **Example 2:** Find the LCM and HCF of 1820 and 3 510.    **Solution**  1 820 = 2 x 2 x 5 x 7 x 13 and  3 510 = 2 x 3 x 3 x 3 x 5 x 13  LCM = 2 x 2 x 3 x 3 x 3 x 5 7 x 13 = 49140  HCF = 2 x 5 x 13 = 130 | | Identify prime numbers from the list of factors of 20 and 45 done during the introduction.  Follow the demonstration and determine the LCM and HCF. |

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| **8. CLASSWORK** (Suggested time: 15 minutes) |
| In each case find the LCM and HCF of the numbers.  1. 24 and 32  2. 360 and 1 360  **NB:** You may also carefully choose the exercises which show different cognitive levels from any textbook used in your school. |
| **9. CONSOLIDATION/CONCLUSION & HOMEWORK** (Suggested time: 5 minutes) |
| 1. Emphasise the following:  * LCM is the lowest multiple that is common to two or more numbers. * HCF is the highest factor that is common to two or more numbers.  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**  1. DBE Workbook 1 page vi no 3 (a) and (b)  2. SASOL-INZALO Book 1 page 17 number 4a and c |