FIRST TERM
WEEKLY LESSON NOTES
WEEK 7

Week Ending: 17-11-2023	**DAY:**	**Subject:** Mathematics	
Duration: 100MINS		**Strand:** Number	
Class: B9	**Class Size:**	**Sub Strand:** SURDS	
Content Standard: B9.1.2.4 Demonstrate understanding of surds as real numbers, the process of adding and subtracting of surds	**Indicator:** B9.1.2.4.3 Simplify given surds	**Lesson:** 1 of 2	
Performance Indicator: Learners can simplify surds and provide practice opportunities for simplifying various surd expressions.	**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)		
References: Mathematics Curriculum Pg. 170			
New words: Surds, Simple Surd, Compound, Radicand			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a visual starter. Display the following surds on the board: √12, √27, √18, √20. Ask learners to identify any patterns or similarities they notice in these surds. Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Begin by simplifying surds with perfect square factors. Explain that if a radicand contains a perfect square factor, it can be simplified. Provide examples and demonstrate the process: √12 = √(4 * 3) = 2√3 √27 = √(9 * 3) = 3√3 Move on to more complex surds that require factoring and simplification. Provide examples of surds like √18 and √20 and guide learners through the simplification process: √18 = √(9 * 2) = 3√2 √20 = √(4 * 5) = 2√5 Distribute a set of surd expressions to learners, including both simple and complex surds. Encourage learners to work individually or in pairs to simplify these surds. Provide opportunities for peer teaching and collaborative problem-solving.	Number cards

	<u>Assessment</u> 1. Simplify $\sqrt{48}$. 2. What is the simplified form of $\sqrt{75}$? 3. If $\sqrt{45} = a\sqrt{5}$, find the value of 'a.' 4. Simplify the surd $\sqrt{98}$.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

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Class: B9	**Class Size:**	**Sub Strand:** SURDS	
Content Standard: B9.1.2.4 Demonstrate understanding of surds as real numbers, the process of adding and subtracting of surds	**Indicator:** B9.1.2.4.4 Approximate the square roots of non-perfect squares with calculators/tables		**Lesson:** 1 of 2
Performance Indicator: Learners can approximate the square roots of non-perfect square numbers using calculators or reference tables.		**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 171			
New words: Surds, Simple Surd, Approximate, Radicand			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a math challenge. Write the following non-perfect square numbers on the board: 10, 15, 20, 25, 30. Ask learners to estimate the square roots of these numbers without using calculators. Discuss their estimates and methods. Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Begin by reviewing what square roots are and how they are related to squaring a number. Explain that not all numbers have whole number square roots, and we need to approximate the square roots of non-perfect squares. Introduce the use of calculators for approximating square roots. Explain the square root function ($\sqrt{x}$) on calculators and how to use it. Provide examples of non-perfect squares, and demonstrate how to use calculators to find their approximate square roots: $\sqrt{10} \approx 3.16$ $\sqrt{15} \approx 3.87$ $\sqrt{20} \approx 4.47$ Explain the concept of reference tables, which are pre-calculated values of square roots for common numbers. Provide learners with a reference table for square roots of non-perfect squares. Have learners use the table to find the approximate square roots of numbers.	Number cards

	Provide learners with a list of non-perfect square numbers and ask them to approximate the square roots using calculators and reference tables. Encourage peer discussion and sharing of methods for accurate approximation. <u>Assessment</u> 1. Approximate the square root of 17 using a calculator. 2. Use the reference table to find the approximate square root of 28. 3. Estimate the square root of 40 without a calculator and then check your estimate using a calculator.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	