

SECOND TERM

WEEKLY LESSON NOTES

WEEK 6

Week Ending:	DAY:	Subject: Mathematics
Duration: 60MINS		Strand: Algebra
Class: B9	Class Size:	Sub Strand: Algebraic Expressions
Content Standard: B9.2.2.1 Demonstrate an understanding of (i) change of subject (ii) substituting values to evaluate expressions, and (iii) factorize expressions that have simple binomial as a factor		Indicator: B9.2.2.1.3 Factorize expressions that have simple binomial
		Lesson: 1 of 1
Performance Indicator: Learners can Identify common factors in expressions and apply the distributive property to factorize expressions with simple binomials.		Core Competencies: Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)
References: Mathematics Curriculum Pg. 182		
New words: Factorize, distributive, property, binomials		
Phase/Duration	Learners Activities	Resources
PHASE 1: STARTER	<p>Capture attention with a secret code-breaking activity or a "factorization treasure hunt" around the classroom.</p> <p>Introduce factorization as a way to decode expressions and reveal hidden structures.</p> <p>Review basic terms like factors, product, and monomial.</p> <p>Share performance indicators and introduce the lesson.</p>	
PHASE 2: NEW LEARNING	<p>Guide learners to identify common factors in expressions using examples: $6x + 4 = 2(3x + 2)$ $15y - 10 = 5(3y - 2)$</p> <p>Emphasize the distributive property as the key to "unlocking" common factors.</p> <p>Introduce factorization of simple binomials: $x^2 + 5x = x(x + 5)$ $6y - 4y^2 = 2y(3 - 2y)$</p> <p>Provide guided practice with various examples, encouraging student participation.</p> <p>Highlight patterns and strategies for efficient factorization.</p> <p>Present more complex expressions involving multiple binomials: Example 1: factorize completely $2x^2 + 6x - 4$</p>	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	<p><u>Solution</u> $2x^2 + 6x - 4 = 2(x^2 + 3x - 2)$ $= 2(x + 2)(x + 1)$</p> <p>Example 2: factorize completely $10y^2 - 5y - 15$ <u>Solution</u> $10y^2 - 5y - 15 = 5(2y^2 - y - 3)$ $= 5(2y + 1)(y - 3)$</p> <p>Encourage teamwork and problem-solving skills.</p> <p>Provide differentiated worksheets for individual practice. Offer support and feedback as needed.</p> <p><u>Assessment</u> Factorize the following expressions</p> <p>i. $3x + 4xy = x(3 + 4y)$ ii. $12ab + 16b = 4b(3a + 4)$ iii. $-13xy + 39x = -13x(y - 3)$ iv. $5y - 2y^2 + 3y = -3y + 3y$ v. $8y - 2y^2 = 2y(4 - y)$ vi. $-6x + 12 = -3(2x - 4)$</p>	
<p>PHASE 3: REFLECTION</p>	<p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>	

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Duration: 60MINS		Strand: Algebra	
Class: B9	Class Size:	Sub Strand: Algebraic Expressions	
Content Standard: B9.2.2.1 Demonstrate an understanding of (i) change of subject (ii) substituting values to evaluate expressions, and (iii) factorize expressions that have simple binomial as a factor		Indicator: B9.2.2.1.4 Use the knowledge of simplifying and factorizing expressions to solve real world problems	Lesson: 1 of 1
Performance Indicator: Learners can translate real-world scenarios into mathematical models using formulas and solve real-world problems involving simplification and factorization		Core Competencies: Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 182			
New words: real-world, scenarios, formulas, simplification, factorization			
Phase/Duration	Learners Activities		Resources
PHASE 1: STARTER	<p>Begin by showcasing engaging images or scenarios highlighting applications of mathematics in everyday life (e.g., construction, sports, cooking).</p> <p>Discuss how formulas and calculations power these activities. Briefly review key simplification and factorization skills.</p> <p>Share performance indicators and introduce the lesson.</p>		
PHASE 2: NEW LEARNING	<p>Introduce the concept of translating real-world situations into mathematical expressions.</p> <p>Use a simplified example like calculating the total cost of buying fruits based on their price per kilogram.</p> <p>Guide learners through identifying relevant variables, writing expressions, and simplifying to obtain the final answer.</p> <p>Present a problem involving more complex calculations, requiring factorization for efficient solution. For example, calculating the area of a garden after combining rectangular sections with different dimensions.</p> <p>Demonstrate how factorization can simplify the expression and streamline the calculations.</p> <p>Encourage learners to explain their reasoning and steps.</p> <p>Provide a variety of real-world problem scenarios on worksheets or projected images.</p> <p>Each scenario should involve variables, formulas, and potential for simplification and/or factorization.</p>		Counters, bundle and loose straws base ten cut square, Bundle of sticks

	<p>Encourage individual or group work, fostering collaboration and discussion.</p> <p>Offer support and guidance as needed.</p> <p>Example 1: You purchased 10 items from a shopping plaza, and now you need plastic bags to carry them home. If each bag can hold only 3 items, how many plastic bags will you need to accommodate the 10 items?</p> <p><u>Solution:</u> We use simple algebraic formula $\frac{x}{y}$ to calculate the number of bags. $x = \text{Number of items purchased} = 10$ $y = \text{Capacity of 1 bag} = 3$</p> <p>Hence, $\frac{10}{3} = 3.333 \text{ bags} = 4 \text{ bags}$ So, we need 4 shopping bags to carry 10 items.</p> <p>Example 2: You have to buy two dozen of eggs priced at GH¢10, three loaves breads (each bread is GH¢5), and five bottles of juice (each bottle is GH¢8). How much money will you need to take to the grocery store?</p> <p><u>Solution</u> The prices are $a = \text{Price of two dozen eggs} = \text{GH¢}10$ $b = \text{Price of one bread} = \text{GH¢}5$ $c = \text{Price of one bottle of juice} = \text{GH¢}8$</p> <p>$\Rightarrow \text{Money needed} = a + 3b + 5c$ $\Rightarrow \text{Money needed} = \text{GH¢}10 + 3(\text{GH¢}5) + 5(\text{GH¢}8) = \text{GH¢}10 + \text{GH¢}15 + \text{GH¢}40$ $= \text{GH¢}65$</p> <p>Dedicate time for learners to share their solutions and approaches to different problems.</p> <p><u>Assessment</u> 1. The area of a rectangle is 72 cm². The length is twice its width. What is the length and width of the rectangle?</p>	
<p>PHASE 3: REFLECTION</p>	<p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>	