Fayol Inc. 0547824419

SECOND TERM

WEEKLY LESSON NOTES

WEEK 6

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| **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 |
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| Phase/Duration | Learners Activities | Resources |
| PHASE 1: **STARTER** | Capture attention with a secret code-breaking activity or a "factorization treasure hunt" around the classroom.Introduce factorization as a way to decode expressions and reveal hidden structures.Review basic terms like factors, product, and monomial.Share performance indicators and introduce the lesson. |  |
| PHASE 2: **NEW LEARNING** | Guide learners to identify common factors in expressions using examples:6x + 4 = 2(3x + 2)15y - 10 = 5(3y - 2)Emphasize the distributive property as the key to "unlocking" common factors.Introduce factorization of simple binomials:x² + 5x = x(x + 5)6y - 4y² = 2y(3 - 2y)Provide guided practice with various examples, encouraging student participation.Highlight patterns and strategies for efficient factorization.Present more complex expressions involving multiple binomials:Example 1: factorize completely 2x² + 6x - 4 Solution 2x² + 6x - 4 = 2(x² + 3x - 2) = 2(x + 2)(x + 1)Example 2: factorize completely 10y² - 5y - 15Solution 10y² - 5y - 15 = 5(2y² - y - 3) = 5(2y + 1)(y - 3)Encourage teamwork and problem-solving skills.Provide differentiated worksheets for individual practice.Offer support and feedback as needed.AssessmentFactorize the following expressionsi. 3x + 4xy = x (3 +4y) ii. 12ab + 16b = 4b (3a + 4) iii. -13xy + 39x= -13x(y-3) iv. 5y-2y2+3y=-3y+3y v. 8y-2y2= 2y(4-y) vi. -6x+12=-3(2x-4) | Counters, bundle and loose straws base ten cut square, Bundle of sticks |
| 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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| **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 |
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| Phase/Duration | Learners Activities | Resources |
| PHASE 1: **STARTER** | Begin by showcasing engaging images or scenarios highlighting applications of mathematics in everyday life (e.g., construction, sports, cooking).Discuss how formulas and calculations power these activities.Briefly review key simplification and factorization skills.Share performance indicators and introduce the lesson. |  |
| PHASE 2: **NEW LEARNING** | Introduce the concept of translating real-world situations into mathematical expressions.Use a simplified example like calculating the total cost of buying fruits based on their price per kilogram.Guide learners through identifying relevant variables, writing expressions, and simplifying to obtain the final answer.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.Demonstrate how factorization can simplify the expression and streamline the calculations.Encourage learners to explain their reasoning and steps.Provide a variety of real-world problem scenarios on worksheets or projected images.Each scenario should involve variables, formulas, and potential for simplification and/or factorization.Encourage individual or group work, fostering collaboration and discussion.Offer support and guidance as needed.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 the10 items?Solution: We use simple algebraic formula $\frac{x}{y}$ to calculate the number of bags. x = Number of items purchased = 10 y = Capacity of 1 bag = 3Hence, $\frac{10}{3} $ = 3.333 bags = 4 bags So, we need 4 shopping bags to carry 10 items.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? Solution The prices are a = Price of two dozen eggs = GH₵10 b = Price of one bread = GH₵5 c = Price of one bottle of juice = GH₵8 => Money needed = a + 3b + 5c => Money needed = GH₵10 + 3(GH₵5) + 5(GH₵8) = GH₵10 + GH₵15 + GH₵40 = GH₵65Dedicate time for learners to share their solutions and approaches to different problems.Assessment1. The area of a rectangle is 72 cm2. The length is twice its width. What is the length and width of the rectangle?
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| 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.  |  |