SECOND TERM
WEEKLY LESSON NOTES
WEEK 1

Week Ending: 12-01-2024	DAY:		Subject: Mathematics
Duration: 60MINS			Strand: Number
Class: B9	Class Size:		Sub Strand: Ratios and Proportion
Content Standard: B9.1.4.1 Apply the understanding of ratio, rate and proportions to solve problems that involve rates, ratios, and proportional reasoning and use it to solve real world mathematical problems		Indicator: B9.1.4.1.1 Represent proportional relationships by equations.	Lesson: 1 of 1
Performance Indicator: Learners can interpret the slope and y-intercept in the context of proportionality and apply equations to solve problems involving proportional relationships.		Core Competencies: Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 175			
New words: Proportional Relationship, Constant, interpret			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a class discussion about real-world scenarios involving proportional relationships. List these scenarios on the board. • *The cost of apples is directly proportional to the number of apples bought.* • *The time it takes to complete a task is directly proportional to the number of workers.* Discuss how these relationships might be represented mathematically. Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Introduce the concept of representing proportional relationships using equations. Discuss the form $y = kx$, where k is the constant of proportionality. Consider this example: If total cost (t) is proportional to the number of items (n) purchased at a constant price (p), the relationship between the total cost and the number of items can be expressed as $t = pn$. Work through examples with the class. Discuss how to identify the constant of proportionality from a scenario. Example 1: If the cost (C) of 5 notebooks (N) is GH₵15, write the equation representing this relationship.	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	Provide learners with several scenarios and guide them in representing these relationships using equations. Work through problems together, emphasizing identifying the constant of proportionality. Discuss different ways to express proportional relationships. Example 2: The total cost (T) of renting bikes is directly proportional to the number of hours (H) they are rented. If it costs GH₵8 for 2 hours, write the equation representing this relationship. <u>Solution</u> T: The total cost of renting bikes. GH₵4/hour: The constant of proportionality, representing the cost per hour of renting a bike. H: The number of hours the bikes are rented. b: The y-intercept, representing any fixed costs (unknown in this case). But with the given information, the equation T = GH₵4/hour * H + b is the most accurate representation of the proportional relationship. Show learners how to plot points from the proportional relationship table on graph paper. Connect the points to form a straight line, highlighting the consistent slope. Discuss how the slope reveals the direction and steepness of the proportional relationship. Offer an optional activity where learners try to guess the equation based on the graph's slope and intercepts. <u>Assessment</u> 1. The total cost (T) of buying apples is directly proportional to the number of kilograms (H) purchased. If it costs GH₵5 for 1 kilogram. write the equation representing this relationship 2. The total cost (T) of making long-distance calls is directly proportional to the call duration (H) in minutes. If it costs GH₵2 for a 5-minute call. write the equation representing this relationship 3. The total cost (T) of buying movie tickets is directly proportional to the number of tickets (H) purchased. If it costs GH₵10 for 2 tickets. write the equation representing this relationship	
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: Ratios and Proportion	
Content Standard: B9.1.4.1 Apply the understanding of ratio, rate and proportions to solve problems that involve rates, ratios, and proportional reasoning and use it to solve real world mathematical problems		Indicator: B9.1.4.1.2 Use proportional relationships to solve multistep ratio and percent problems, examples: simple interest, tax, discount and commissions, NHIL, depreciation, insurance, etc.		Lesson: 1 of 1
Performance Indicator: Learners can use proportional relationships to solve multistep ratio and percent problems		Core Competencies: Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)		
References: Mathematics Curriculum Pg. 175				
New words:				

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin by reviewing ratios and percent with learners. Use familiar examples like percentages in class grades or ratios in recipes. Introduce the concept of proportional relationships and how they can be used to solve real-world problems. Discuss the importance of proportional reasoning in financial transactions, decision-making, and understanding everyday situations. Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Ask learners to bring an item with a price tag (toy, clothes, book) and share its actual price along with any discounts or taxes they encountered. Use their examples to introduce different concepts like discount calculation and tax application. Divide learners into small groups and give each group a hypothetical budget for a weekend outing or school event. Challenge them to plan activities (movies, meals, games) within their budget, factoring in prices, discounts, and taxes. You can even provide flyers or online menus for them to research options. Set up a simulation where learners open "fake" bank accounts with a small initial deposit. Allow them to earn "interest" on their deposits based on real-world interest rates and have them calculate their growing savings over time. Assign learners different everyday items or services (phone plan, haircut, groceries) and challenge them to research the current prices, tax rates, and potential discounts.	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	Have them compare options and present their findings to the class, focusing on cost-effectiveness and responsible consumer choices.	
	Prepare cards with different percentages (10%, 25%, 50%) and product prices. Learners pick a card and a price, then calculate the discounted price.	
	Provide magazine clippings with pictures of items from different price ranges.	
	Challenge learners to create a collage representing a specific budget by selecting and cutting out items within their imaginary limits.	
	Discussing their choices and budget considerations adds another layer of engagement.	
	Set up a "mini-market" with real or toy products labelled with prices.	
	Have learners "shop" using pretend money and practice calculating their total cost with tax before "paying" at a designated cashier. Rotate roles so everyone gets to shop and calculate.	
	Use toy cars (or pictures) with different starting prices and depreciation rates.	
	Learners roll dice to represent time passing and calculate the decreasing value of their cars over time. The "richest" car owner at the end wins, sparking discussion about depreciation and its real-world implications.	
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.	