THIRD TERM
WEEKLY LESSON NOTES
WEEK 2

Week Ending: 07-07-2023	**DAY:**	**Subject:** Mathematics	
Duration: 60MINS		**Strand:** Number	
Class: B8	**Class Size:**	**Sub Strand:** Ratios and Proportion	
Content Standard: B8.1.4.1Demonstrate an understanding of ratio, rate and proportions and use it these to solve real-world mathematical problems	**Indicator:** B8.1.4.1.1 Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities	**Lesson:** 1 of 1	
Performance Indicator: Learners can use ratio reasoning to convert measurement units		**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 102			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Using blackboard illustrations, review learners understanding in the previous lesson. Introduce the lesson by sharing the performance indicators.	
PHASE 2: **NEW LEARNING**	Revise with learners on some common units of measurement. Brainstorm learners for the difference between ratio and rates. *A ratio is a comparison of two quantities that are related in some way, usually expressed in the form of a fraction or a colon. For example, if there are 10 boys and 20 girls in a classroom, the ratio of boys to girls is 10:20, which can be simplified to 1:2.* *A rate, on the other hand, is a comparison of two quantities that have different units of measurement, often expressed in the form of a fraction or a percentage. Rates are used to describe how quickly or how often something occurs. For example, if a car travels 60 miles in one hour, its rate of speed is 60 miles per hour (mph).* Guide learners to convert (cm to m; km to m; ml to cm; etc.) one unit of measure to another using ratio reasoning. *To convert centimeters to meters, you need to divide the number of centimeters by 100. This is because there are 100 centimeters in one meter.* *The formula for converting centimeters to meters is:* *meters = centimeters / 100* *For example, if you have a length of 150 centimeters, the calculation would be:* *meters = 150 / 100* *meters = 1.5* *Therefore, 150 centimeters is equivalent to 1.5 meters.*	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	To convert meters to centimeters, you can multiply the value in meters by 100. For example, if you have a distance of 2 meters, you can convert it to centimeters by multiplying 2 by 100, giving you a result of 200 centimeters. *The formula for the conversion of meters to centimeters is:* *Centimeters = Meters x 100* *For instance, if you have a measurement of 5.5 meters, the conversion to centimeters would be:* *Centimeters = 5.5 meters x 100* *Centimeters = 550 centimeters* *Therefore, 5.5 meters is equivalent to 550 centimeters.* *To convert meters to kilometers, you can divide the value in meters by 1000. For example, if you have a distance of 5000 meters, you can convert it to kilometers by dividing 5000 by 1000, giving you a result of 5 kilometers.* *The formula for the conversion of meters to kilometers is:* *Kilometers = Meters / 1000* *For instance, if you have a measurement of 8000 meters, the conversion to kilometers would be:* *Kilometers = 8000 meters / 1000* *Kilometers = 8 kilometers* *Therefore, 8000 meters is equivalent to 8 kilometers.* *To convert millimeters to centimeters, you can divide the value in millimeters by 10. For example, if you have a length of 50 millimeters, you can convert it to centimeters by dividing 50 by 10, giving you a result of 5 centimeters.* *The formula for the conversion of millimeters to centimeters is:* *Centimeters = Millimeters / 10* *For instance, if you have a measurement of 250 millimeters, the conversion to centimeters would be:* *Centimeters = 250 millimeters / 10* *Centimeters = 25 centimeters* *Therefore, 250 millimeters is equivalent to 25 centimeters.* Guide learners to manipulate and use units appropriately to solve problems. Example: Agbo walks 4km to school every day. He uses 60minutes. Rukiya uses 45minutes to cover 4200m. Which of the two learners is faster? <u>Solution</u> Let's convert Rukiya's distance to kilometers: 4200 meters = 4.2 kilometers Rukiya covers 4.2 kilometers in 45 minutes, which can be expressed as: Speed = Distance / Time = 4.2 km / 0.75 hours = 5.6 km/hour Now let's calculate Agbo's speed: Speed = Distance / Time = 4 km / 1 hour = 4 km/hour <u>Assessment</u>	

	• Convert 3200cm to meters • How many centimeters are in 60m? • Change 7.2m to centimeters. • Convert 800m to km.	
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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Content Standard: B8.1.4.1Demonstrate an understanding of ratio, rate and proportions and use it these to solve real-world mathematical problems	**Indicator:** B8.1.4.1.2 Solve unit rate problems including those involving unit pricing and constant speed; and speed translation.	**Lesson:** 1 of 1

Performance Indicator: Learners can solve unit rate problems including those involving unit pricing and constant speed; and speed translation.	**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)

References: Mathematics Curriculum Pg. 105

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Using blackboard illustrations, review learners understanding in the previous lesson. Introduce the lesson by sharing the performance indicators.	
PHASE 2: **NEW LEARNING**	Guide learners to solve unit rate problems including those involving unit pricing and constant speed. Unit pricing problems involve calculating the price per unit of a particular item. To solve a unit pricing problem, divide the total cost of the item by the quantity of the item. For example: If a 24-pack of bottled water costs ₵5.99, what is the price per bottle? Solution: *Price per bottle = Total cost of 24-pack / Quantity of bottles* *Price per bottle = ₵5.99 / 24* *Price per bottle = ₵0.25* *Therefore, the price per bottle of water is $0.25.* <u>Constant speed problem</u>: Constant speed problems involve calculating the distance or time taken to travel a certain distance at a constant speed. To solve a constant speed problem, use the formula: distance = speed x time or time = distance / speed For example: If a car travels at a constant speed of 60 miles per hour, how far will it travel in 2.5 hours? Solution: *distance = speed x time* *distance = 60 mph x 2.5 hours* *distance = 150 miles* *Therefore, the car will travel 150 miles in 2.5 hours at a constant speed of 60 miles per hour.*	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	<u>Assessment</u> If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? Solution: To find out how many lawns could be mowed in 35 hours, we can use the following proportion: 4 lawns / 7 hours = x lawns / 35 hours Solving for x, we can cross-multiply: 4 lawns * 35 hours = 7 hours * x lawns 140 lawns = 7x x = 20 4 lawns / 7 hours = 0.57 lawns per hour So, the rate at which lawns were being mowed is 0.57 lawns per hour.	
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.	