SECOND TERM
WEEKLY LESSON NOTES
WEEK 8

Week Ending:	**DAY:**	**Subject:** Mathematics	
Duration: 60MINS		**Strand:** Algebra	
Class: B9	**Class Size:**	**Sub Strand:** Variables and Equations	
Content Standard: B9.2.3.1 Demonstrate understanding of single variable linear inequalities with rational coefficients	**Indicator:** B9.2.3.1.2 Illustrate solution sets of linear inequalities on the number line	**Lesson:** 1 of 1	
Performance Indicator: Learners can Illustrate solution sets of linear inequalities on the number line	**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)		
References: Mathematics Curriculum Pg. 182			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Play a quick "true or false" game to activate prior knowledge of equality and order of operations. Show examples like 5 + 3 = 8 (true), 4 × 2 < 6 (true), 10/2 > 4 (false). Introduce the concept of inequalities as comparisons that are not "equal to." Ask learners for examples of situations where "less than," "greater than," etc. are used in real life. Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Show and explain each inequality sign with clear visualizations: ● "<" as an open mouth "eating" the larger number. ● ">" as an open mouth "swallowing" the smaller number. ● "≤" as a closed mouth including the larger number as a possibility. ● "≥" as a closed mouth including the smaller number as a possibility. Write clear examples of each symbol used in inequalities like 4 < 9, 7 > 2, 3 ≤ 5, and 1 ≥ 0.	Counters, bundle and loose straws base ten cut square, Bundle of sticks

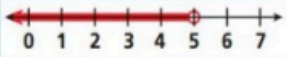
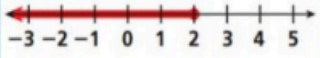
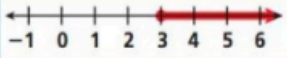
Explain the difference between open and closed circles on the number line.

Present verbal statements like "John has less than 10 marbles" or "The temperature is greater than 30 degrees Celsius."

Guide learners to translate these statements into mathematical inequalities using the correct symbols.

Practice several such examples as a class, ensuring comprehension.

Introduce the concept of graphing inequalities on a number line.

Word Phrase	Inequality	Solution Set
x is less than 5	$x < 5$	
a is greater than 0 a is more than 0	$a > 0$	
y is less than or equal to 2 y is at most 2	$y \leq 2$	
m is greater than or equal to 3 m is at least 3	$m \geq 3$	

Use an example inequality like $2x < 6$ to demonstrate the steps:

- Solve for x to find the boundary point ($x < 3$).
- Draw a line to the right of 3 (excluding it) as 3 is not included in the solution.
- Shade the region to the left of the line, as all values smaller than 3 satisfy the inequality.

Repeat with other examples, involving both open and closed circles on the number line.

Encourage learners to work individually or in pairs, offering support as needed.

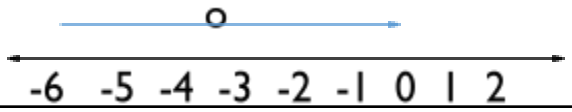
Example 1: Solve $-3x - 8 > -26$

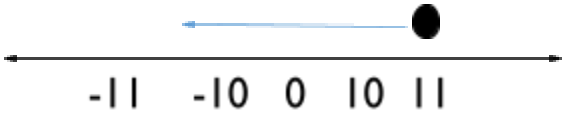
<u>Solution</u>

$-3x - 8 > -26 = -3x > -26 + 8$

$-3x < 18$

$x > -6$



	Example 2: Solve $2x - 3 \leq 19$ <u>Solution</u> $2x - 3 \leq 19 = 2x \leq 19 + 3$ $2x \leq 22 = x \leq 11$  <u>Assessment</u> 1. $2x + 7 \geq \frac{5}{2}$ 2. $\frac{4}{5} - \frac{1}{5}x \geq \frac{2}{7}$ 3. $\frac{3}{2}y - \frac{2}{5} \leq \frac{4}{5}$ 4. $\frac{1}{2}(5x - 4) \leq x + \frac{11}{24}$ 5. $\frac{1}{3} \geq x - \frac{4}{5}$ $\frac{1}{2}(x + 3) \leq x + 1$	
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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Performance Indicator: Learners can illustrate solution sets of linear inequalities on the number line		**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 182			
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Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Review previous knowledge of inequalities with a quick quiz or game. Ask learners to recall the symbols and their meanings (<, >, ≤, ≥) and give examples of each. Discuss real-life scenarios where inequalities are used, like budget limitations or competition rankings Share performance indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Start with simple inequalities like $2x < 6$. Demonstrate the process of isolating x by dividing both sides by 2. Explain how the inequality sign remains unchanged if we multiply or divide both sides by a positive number. Reverse the inequality if necessary to ensure x is isolated on the left. Introduce the concept of "boundary points" and their role in solutions. Start with simple inequalities like $2x < 6$. Demonstrate the process of isolating x by dividing both sides by 2. Explain how the inequality sign remains unchanged if we multiply or divide both sides by a positive number. Reverse the inequality if necessary to ensure x is isolated on the left.	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	Introduce the concept of "boundary points" and their role in solutions. Introduce the concept of graphing linear inequalities on a Cartesian plane (coordinate system). Explain how linear inequalities translate to linear equations with specific shading regions. Start with simple examples like $y \leq 2x$, where the equation forms a boundary line and we shade the region below it. Discuss how the direction of the inequality determines the shading direction (above or below the line).	
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.	