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Lesson Exemplar for Mathematics

Quarter 4
Lesson

3

Lesson Exemplar for Mathematics Grade 4
Quarter 4: Lesson 3 (Week 3)
SY 2024-2025

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MATHEMATICS / QUARTER 4 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learner should have knowledge and understanding of: 1. simple patterns 2. number sentences
B. Performance Standards	By the end of the quarter, the learners are able to: 1. generate a simple pattern and describe the rule used. (NA) 2. complete number sentences to represent number properties and number facts. (NA)
C. Learning Competencies and Objectives	By the end of the quarter, the learners: 1. complete a number sentence: a. to represent a property of operations (e.g., $4 + 3 = 3 + \underline{\quad}$) (commutative property of addition) b. to represent equivalent number facts (e.g., $4 + \underline{\quad} = 6 + 3$)
D. Content	Number sentence
E. Integration	

II. LEARNING RESOURCES
Manitoba Education and Training. (2017). Grade 4 mathematics: patterns and relations. ISBN: 978-0-7711-8041-5. https://www.edu.gov.mb.ca/k12/cur/math/support_gr4/patterns.pdf

III. TEACHING AND LEARNING PROCEDURE	NOTES TO TEACHERS
A. Activating Prior Knowledge DAY 1 & 3 1. Short Review Activity 1. Number Facts Check (Drill Activity) Flash Cards. Let learners determine the sum, difference, product, and quotient of two numbers. 2. Feedback (Optional)	The intention of Activity 1 is for learners to commit to their memory of the basic operations. Number facts are essential in building learners' conceptual understanding of number sentences. Also, a good memory of number facts builds

		learners' confidence in doing mathematics. The teacher may use physical flashcards or slide presentations.
B. Establishing Lesson Purpose	1. Lesson Purpose DAY 1 Let learners do Q4 Lesson 3 Week 3 Worksheet Activity 1. 2. Unlocking Content Area Vocabulary	This activity intends to activate the prior knowledge of learners on the number facts.
C. Developing and Deepening Understanding	DAY 1-2 SUB-TOPIC 1: Represent Equivalent Number Facts 1. Explicitation Do Activity 3 before discussing equivalent number facts. Equivalent number facts refer to number sentences that yield identical numerical outcomes or results when computed despite variations in the arrangement or composition of numbers and operations. 2. Worked Example Example 1. $9 + 3 = 12$ and $7 + 5 = 12$, thus $9 + 3 = 7 + 5$. Example 2. $27 - 12 = 15$ and $30 - 15 = 15$, thus $27 - 12 = 30 - 15$. Example 3. $5 \times 4 = 20$ and $2 \times 10 = 20$, thus $5 \times 4 = 2 \times 10$. Example 4. $15 \div 3 = 5$ and $40 \div 8 = 5$, thus $15 \div 3 = 40 \div 8$. Example 5. $9 + 3 = 12$ and $18 - 6 = 12$, thus $9 + 3 = 18 - 6$. Example 6. Determine the value of N in the number sentence. $8 + 12 = N \times 4$ Solution. $8 + 12 = N \times 4$ $20 = N \times 4$	Before introducing equivalent number facts, drill students on number facts using flashcards. For example 6, let learners do the checking: $8 + 12 = 5 \times 4$ $20 = 20$ (true)

To get the missing factor: $20 \div 4 = N$
 Answer: $20 \div 4 = 5$, therefore **N = 5**.

Example 7. Determine the value of N in the number sentence.
 $64 - 8 = 25 + N$

Solution.

$$64 - 8 = 25 + N$$

$$56 = 25 + N$$

To get the missing addend: $56 - 25 = N$
 Answer: $56 - 25 = 31$, therefore **N = 31**.

3. Lesson Activity

Find the value of N so that the number sentence is true.

Number Sentence	N
1. $27 - 6 = N \times 3$	
2. $N \div 7 = 12 - 8$	
3. $45 \div N = 19 - 4$	
4. $8 \times 9 = 6 \times N$	
5. $34 - N = 89 - 78$	

DAY 3-4

SUB-TOPIC 2: Properties of Addition and Multiplication

1. Explicitation

Drill learners on number facts (see Activity 1)

Study the following:

Table 1

Operation	Number Sentence	
Addition	$13 + 2 = 15$	$2 + 13 = 15$
Multiplication	$5 \times 6 = 30$	$6 \times 5 = 30$

Answer Key:

1. 7
2. 28
3. 3
4. 12
5. 23

Before introducing commutative and associative properties of addition and multiplication, ask learners how they understand Table 1 and Table 2.

Table 2

Operation	Number Sentence	
Addition	$(13 + 2) + 5 = 20$	$13 + (2 + 5) = 20$
Multiplication	$(3 \times 1) \times 8 = 24$	$3 \times (1 \times 8) = 24$

- *Commutative Property of Addition* states that changing the order of the addends does not change the sum.
- *Commutative Property of Multiplication* states that changing the order of the factors does not change the product.
- *Associative Property of Addition* states that changing the grouping of addends does not change the sum.
- *Associative Property of Multiplication* states that changing the grouping of factors does not change the product.

2. Worked Example

Instructions. Fill in the blanks to make each number sentence true.

Example 1. $13 + 19 = \underline{\quad} + 19$

Answer: 13

Example 2. $5 \times (3 \times 4) = (\underline{\quad} \times 3) \times 4$

Answer: 5

Example 3. $(27 + \underline{\quad}) + 12 = 27 + (9 + \underline{\quad})$

Answer: 9, 12

3. Lesson Activity

Find the value of N in the following number sentences:

1. $N + 12 = \mathbf{32} = 12 + N$
2. $2 \times (3 \times N) = \mathbf{18} = (2 \times 3) \times N$
3. $N + (17 + 25) = \mathbf{51} = (N + 17) + 25$
4. $7 \times N = \mathbf{42} = N \times 7$
5. $N \times (3 \times 2) = \mathbf{54} = (N \times 3) \times 2$

*Add more examples for learners to practice procedurally.

Answer Key:

1. 20
2. 3
3. 9
4. 6
5. 9

*Provide more examples before assessing the learners.

D. Making Generalizations	1. Learners' Takeaways DAY 3 & 4 Per sub-topic, ask students what three things they have learned. Let them write it in their notebook and ask one to two students to share it with the class. 2. Reflection on Learning DAY 4 Let the students complete the sentence. The mathematical skill/s that I discover within myself while doing the activities that I want to improve most is/are _____ because _____.	
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IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION				NOTES TO TEACHERS
A. Evaluating Learning	DAY 4 1. Formative Assessment Fill in the missing numbers so that the number sentence is correct. $4 \times (N \times 2) = \mathbf{24} = (4 \times N) \times 2$ $N + (74 + 9) = \mathbf{100} = (N + 74) + 9$ $39 + N = \mathbf{85} = N + 39$ $5 \times (3 \times N) = \mathbf{60} = (5 \times 3) \times N$ $N \times 9 = \mathbf{81} = 9 \times N$ 2. Homework (Optional)			Answer Key: 3 17 46 4 9
B. Teacher's Remarks	<i>Note observations on any of the following areas:</i>	Effective Practices	Problems Encountered	The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement, and other related stuff. Teachers may also suggest ways to improve the different
	strategies explored			
	materials used			
	learner engagement/ interaction			

	others			activities explored/lesson exemplar.
C. Teacher's Reflection	<i>Reflection guide or prompt can be on:</i> • <u>principles behind the teaching</u> <i>What principles and beliefs informed my lesson?</i> <i>Why did I teach the lesson the way I did?</i> • <u>students</u> <i>What roles did my students play in my lesson?</i> <i>What did my students learn? How did they learn?</i> • <u>ways forward</u> <i>What could I have done differently?</i> <i>What can I explore in the next lesson?</i>			Teacher's reflection in every lesson conducted/facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.