



Lesson Exemplar for Mathematics

Quarter 2 Lesson

COVERNMENT PROPERTY E

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IMPLEMENTATION OF THE MATATAG K TO 10 CURRICULUM

Lesson Exemplar for Mathematics Grade 4 Quarter 2: Lesson 8 (Week 8) SY 2024-2025

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MATHEMATICS / QUARTER 2 / GRADE 4

I. CUI	. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES				
А.	Content Standards	Addition and subtraction of similar fractions, including mixed numbers.			
В.	Performance Standards	erform addition and subtraction of similar fractions, including mixed numbers.			
C.	Learning Competencies and Objectives	 Learning Competency 1. Determine similar and dissimilar fractions 2. Add and subtract similar fractions two proper fractions, two mixed numbers, a mixed number and a proper fraction, a whole number and a proper fraction, and a whole number and a mixed number. 			
C.	Content	 Addition and Subtraction of Similar Fractions a. Addition and Subtraction of two proper fractions b. Addition and Subtraction of two mixed numbers c. Addition and Subtraction of a mixed number and a proper fraction d. Addition and Subtraction of a whole number and a proper fraction e. Addition and Subtraction of a whole number and a mixed number 			
D.	Integration	Values of sharing, fairness and building friendship.			

II. LEARNING RESOURCES

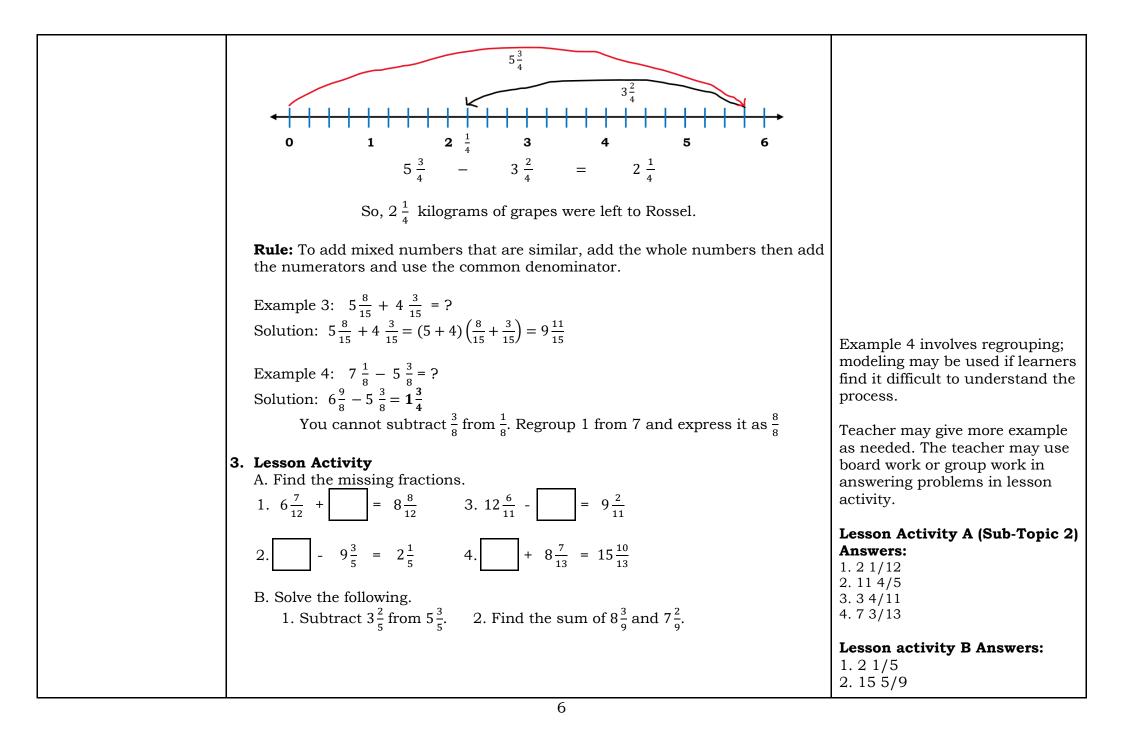
Jalon, H. F. et. al. (2019). *Phoenix Math for the 21st Century Learners*. Phoenix Publishing House, Inc., Quezon City Misa, E. L. (2019). *The World of Mathematics and Beyond*. Brilliant Creations Publishing, Inc., Quezon City Yn, G. U. (2017). *Our World of Math*. Vibal Group, Inc., Quezon City

III. TEACHING AND LEA	RNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	DAY 1 1. Short Review Write the fraction for the shaded parameters Set A $ \begin{array}{c} 2 \\ \overline{5} \\ \overline{5}$	Set B	 The learners will write their answers on the board. The teacher may ask the following: a) What have you observed on the fractions on Set A and Set B? (Learners noticed that the sets of fractions on Sets A and B have the same denominator) b) How about on the fractions on Set C and Set D? (Learners noticed that the sets of fractions on Sets C and D have different denominators)
B. Establishing Lesson Purpose	denominator is 5, while in Set B the Sets C and D contain different der	the same denominator. In Set A the common he common denominator is 7. Fractions on nominators. It is important to know how to h the same denominator and different topic,	Teacher may ask questions about valuing similarities and differences in characteristics among friends.

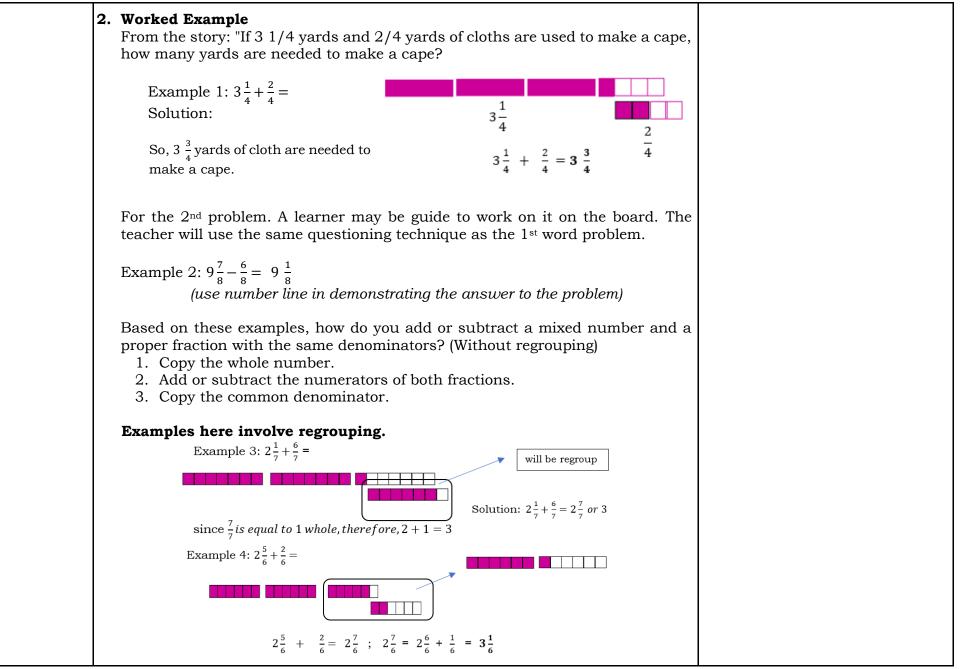
	 Unlocking Content Area Vocabulary Similar fractions are fractions with similar or the same denominators. Dissimilar fractions are fractions with dissimilar or different denominators. 	
C. Developing and Deepening Understanding	SUB-TOPIC 1: Addition and Subtraction of two proper/improper fractions that are similar 1. Explicitation <i>Opener:</i> Angel, a Grade 4 student, completed $\frac{2}{5}$ of her assigned tasks on a long weekend. She continued the following day and completed $\frac{1}{5}$ of the tasks. How much of the assigned tasks did Angel accomplish? How much of the assigned tasks were not accomplished? The teacher may I ask the learner on how the problem may be solved? Then lead the learners to the lesson topic: Addition/subtraction of similar fractions 2. Worked Example Example 1: Find the sum of $\frac{2}{5} + \frac{1}{5}$ Ask the learners to use discs to represent the completed tasks of Angel. $ightarrow = \frac{2}{5}$ completed assigned tasks $ightarrow = \frac{2}{5}$ completed assigned tasks on the following day Ask the learners to construct the diagram (disc) representing the total completed tasks by Angel. $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$ So, $\frac{3}{5}$ of the assigned tasks was accomplished by Angel. Rule: To add proper fractions that similar, add the numerators then use the common denominator.	<section-header>For Sub-Topic 1:The teacher may give moreexamples when needed.The concept of addition andsubtraction (Sub-Topic 1) canalso be develop using a numberline.</section-header>

	Then, to find how much of the assigned tasks were not accomplished by Angel, we will use subtraction.		
	Example 2: Subtract $\frac{5}{5} - \frac{3}{5}$		
	The whole task can be represented by the fraction $\frac{5}{5}$. Since $\frac{3}{5}$ was the total		
	accomplished tasks by Angel, we subtract $\frac{3}{5}$ from $\frac{5}{5}$. This can be explained by the		
	diagram below.		
	To develop the concept involve here, the "take away" concept of subtraction may be used thru number line.		
	$\begin{array}{c} 5\\ 5\\ \hline \\ 0\\ \hline \\ 2\\ \hline \\ 5\\ \hline \end{array}$		
	$\frac{5}{5} - \frac{3}{5} = \frac{2}{5}$ "take away $\frac{3}{5}$ from $\frac{5}{5}$ "		
	So, $\frac{2}{5}$ of the assigned tasks were NOT accomplished by Angel.		
	$_{5}$ of the assigned tasks were not accomplished by miger.		
	Ask the learners to make conclusion on getting the difference of the given fractions. Bring the learners to the rule below.		
	Rule: To subtract proper/improper fractions that are similar, subtract the		
	numerators and use the same denominator.		
3	3. Lesson Activity A. Use a diagram to represent the sum or difference of the following fractions $1. \frac{1}{8} + \frac{4}{8}$ $2. \frac{7}{10} - \frac{4}{10}$		
	B. Perform the indicated operation.	Lesson Activ B. Answers:	ity (Sub-Topic 1)
	$1. \frac{1}{10} + \frac{6}{10} \qquad \qquad 6. \frac{75}{200} + \frac{42}{200}$	1.7/10	6. 117/200
	$2. \frac{11}{21} + \frac{6}{21} \qquad 7. \frac{56}{85} - \frac{12}{85}$	2. 17/21 3. 2/19	7. 44/85 8. 9/10
	$1. \frac{1}{10} + \frac{6}{10} \qquad 6. \frac{75}{200} + \frac{42}{200}$ $2. \frac{11}{21} + \frac{6}{21} \qquad 7. \frac{56}{85} - \frac{12}{85}$ $3. \frac{4}{19} - \frac{2}{19} \qquad 8. \left(\frac{4}{10} + \frac{1}{10}\right) + \left(\frac{5}{10} - \frac{1}{10}\right)$	4. 6/13 5. 3/100	9. 2/45 10. 0

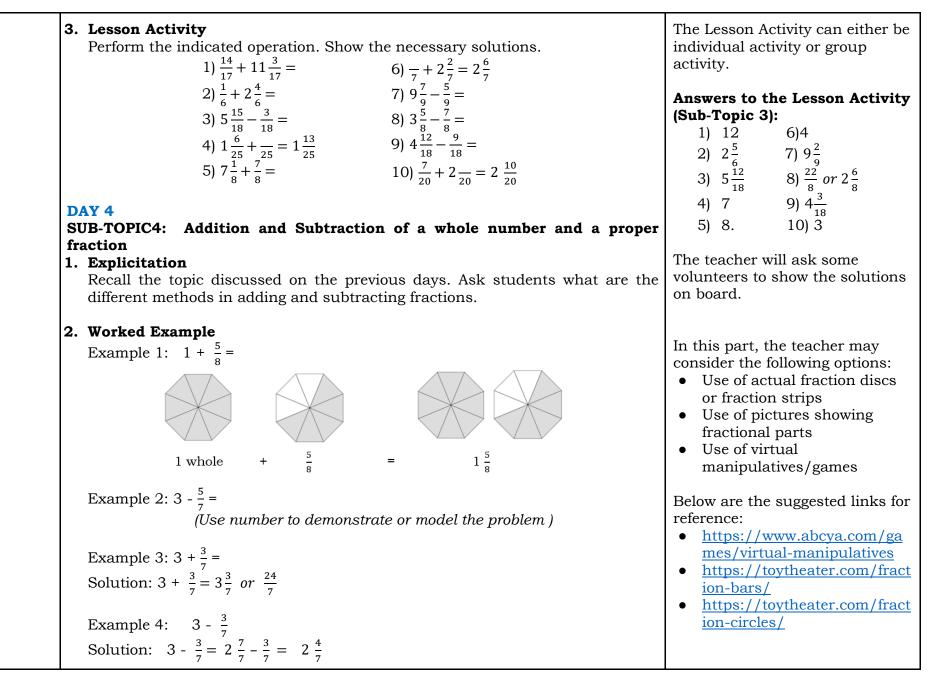
$4. \frac{9}{13} - \frac{3}{13} \qquad 9. \left(\frac{5}{45} + \frac{2}{45}\right) - \left(\frac{4}{45} + \frac{1}{45}\right) \\ 5. \frac{47}{100} - \frac{44}{100} \qquad 10. \left(\frac{8}{19} - \frac{3}{19}\right) - \left(\frac{9}{19} - \frac{4}{19}\right)$	
DAY 2 SUB-TOPIC 2: Addition and Subtraction of two mixed numbers that Similar 1. Explicitation <i>Opener:</i> Rosell bought $5\frac{3}{4}$ kg of grapes. He gave $1\frac{1}{4}$ kg to his cousin Nat and $2\frac{1}{4}$ kg to his grandmother. How much kg of grapes did he give to his cousin and grandmother? How much grapes were left to Rosell? Ask the learners to identify the type of fractions involve in the problem. Then lead the learner to the lesson topic.	For Sub-Topic 2: Number line may also be used as models in adding similar mixed numbers. The teacher may give other examples when needed.
2. Worked Example Example 1: How much kg of grapes did he give to his cousin and grandmother? Learners are actually asked to find the sum of $1\frac{1}{4}$ and $2\frac{1}{4}$. Guide the learners in solving the problem using models then to the use of symbols. $ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
Rule: To add mixed numbers that are similar, add the whole numbers then add the numerators and use the common denominator. Example 2: How much grapes were left to Rosell? Learners are asked to find the difference between $5\frac{3}{4}$ and $3\frac{2}{4}$. Guide the learners in solving the problem using a number line then to symbols.	



DAY 3 SUB-TOPIC 3: Addition and Subtraction of a mixed number and a proper fraction that are similar 1. Explicitation For Sub-Topic 3: To make the learners engaged, the teacher will use "Math Storytelling" in The teacher may choose any of the following options: introducing the lesson. • Ask a learner to read the In a faraway land, there lived a beautiful and intelligent lady named Cinderell-X. She loved doing puzzles and math problems since she was young. While growing story with clarity and up, she hid this exceptional ability from her stepmother and stepsisters. One day, a emphasis. man from the palace came to bring an invitation to the Grand Fraction Ball organized • The teacher will read the by the Crown Prince, Decimalus, also known for being a math wizard. For Cinderellstory imitating the voice X to participate in the ball, her fairy godmother transformed her into a beautiful lady. behind Disney movies Hence, during the ball, she made a grand entrance. • The teacher will play a While walking in the hallway, she encountered a fraction word problem on the simple video regarding the wall: "If 3 1/4 yards and 2/4 yards of cloths are used to make a cape, how many story vards are needed to make a cape?" With confidence, Cinderell-X answered the • Use of AI voice over as a problem with ease. Decimalus saw her and was impressed. She walked again and saw the 2nd narrator word problem, If you owned 9 7/8 hectares of land and decided to donate 6/8 hectares, how many hectares were left?" Again, she solved the problem quickly. As Through this questioning she continued to solve word problems, Decimalus could not help but fall in love with technique, the learners will have her. So, they danced, laughed, and solved word problems together while enjoying an idea of what their lesson is their magical moment. about. However, Cinderell-X had to leave before midnight, so she dashed and left her • Kind – mixed and proper glass shoe. The next day, Decimalus used his math skills to find the perfect glass Similar fractions shoe fit. The shoe fit perfectly with Cinderell-X's foot. • Operations – addition andand they live happily ever after while solving fraction word problems subtraction together. THE END Virtual manipulatives may also be utilized. See the link below for The teacher will process this story by asking these questions: reference: 1. What was the 1st word problem solved by Cinderell-X? 2. What kind of fractions were given in the problem? https://toytheater.com/fraction-3. What have you noticed with their denominators? strips/ 4. If you were Cinderell-X, what operation are you going to use? 5. What do you think was Cinderell-X's answer to the 1st problem? Who would like to be Cinderell-X and show the solution on the board? The teacher will guide the learners model the answer using **fraction strips**.



Method 1: Using the mixed number form $2\frac{5}{6} + \frac{2}{6} = 2\frac{7}{6}$ since $\frac{7}{6}$ can be changed into $1\frac{1}{6}$, therefore, $2 + 1\frac{1}{6} = \mathbf{3}\frac{1}{6}$ Method 2: Changing mixed number into improper fraction $2\frac{5}{6} + \frac{2}{6} = \frac{29}{6} + \frac{2}{6} = \frac{31}{6}$ or **3** $\frac{1}{6}$ For method 2, to add a mixed number and a proper fraction with regrouping, 1. Convert the given mixed number into an improper fraction. 2. Add the numerators. 3. Copy the common denominator. **Example 5:** $5\frac{1}{3} - \frac{2}{3} =$ (Use number line to model this problem. Refer to subtopic 1 for your quide) Method 1: Using the mixed number form since $\frac{2}{3}$ cannot be subtracted right away from $\frac{1}{3}$, 5 must be changed into 4 $\frac{3}{3}$, hence, $5\frac{1}{3} = 4\frac{3}{3} + \frac{1}{3} = 4\frac{4}{3}$ $5\frac{1}{3} - \frac{2}{3} = 4\frac{4}{3} - \frac{2}{3} = 4\frac{2}{3}$ Method 2: Changing mixed number into improper fraction $5\frac{1}{3} - \frac{2}{3} = \frac{16}{3} - \frac{2}{3} = \frac{14}{3} \text{ or } 4\frac{2}{3}$ How do you subtract a proper fraction from a mixed number with regrouping? 1. Convert the given mixed number into either an improper fraction or a mixed number whose fractional part is an improper fraction. 2. Subtract the numerators. 3. Copy the common denominator.



3. Lesson Activity

To make the activity more engaging, the teacher will hold the **"MATHatag Quiz Bee".**

1) $5 - \frac{1}{4} =$	6) $-\frac{3}{7} = 4\frac{4}{7}$
$2)\frac{4}{13} + _ = 6\frac{4}{13}$	7) $2 - \frac{2}{5} =$
3) $\frac{8}{14} + 20 =$	8) + 17 = 17 $\frac{3}{9}$
4) $\frac{1}{8} + 2 = 2\frac{4}{8}$	9) $1 - \frac{5}{30} =$
5) $8 - \frac{4}{6} =$	10) $10 - \frac{13}{15} =$

DAY 5

SUB-TOPIC 5: Addition and Subtraction of a whole number and a mixed number

1. Explicitation

"Draw Me"

Ask the learners to draw diagram (maybe discs, strip, or number line) representing the fraction: $3\frac{1}{4}$

Then ask the learners to add 2 whole discs (if disc was used) to $3\frac{1}{4}$.

Finally, ask the learner to draw a separate diagram representing all the diagrams used. Then bring the learners to the new lesson topic.

2. Worked Example

The teacher will guide the learners in getting the correct answers from the given illustrations. Each correct answer will be placed in a table showing methods 1 and 2.

Given	Method 1	Method 2
Given	(Use of Improper Fraction form)	(Use of Mixed Number form)
1) 1 + 1 $\frac{1}{2}$ =	$\frac{2}{2} + \frac{3}{2} = \frac{5}{2} \text{ or } 2\frac{1}{2}$	$1 + 1\frac{1}{2} = 2\frac{1}{2}$
2) $1\frac{1}{4} + 2 =$	$\frac{5}{4} + \frac{8}{4} = \frac{13}{4} \text{ or } 3\frac{1}{4}$	$1\frac{1}{4} + 2 = 3\frac{1}{4}$
3) $2\frac{1}{3} - 1 =$	$\frac{7}{3} - \frac{3}{3} = \frac{4}{3} \text{ or } 1\frac{1}{3}$	$2\frac{1}{3} - 1 = 1\frac{1}{3}$
4) $3 - 2\frac{3}{4} =$	$3 - 2\frac{3}{4} = \frac{12}{4} - \frac{11}{4} = \frac{1}{4}$	$3 - 2\frac{3}{4} = 2\frac{4}{4} - 2\frac{3}{4} = \frac{1}{4}$

For the **MATHatag Quiz Bee**, the learners will be grouped into five groups to make the activity more engaging. Their seats will be arranged in circular formation. Each group will have a whiteboard and a marker where they can write their answers. If learners do not have whiteboards and markers, they can use bond papers and pens. The teacher will use a timer. The group who got the most correct answers will be the winner.

Answers for the Lesson Activity (Sub-Topic 4):		
1)	$4\frac{3}{4}$	6) $4\frac{1}{7}$ 7) $1\frac{3}{5}$
2)	6	7) $1\frac{3}{5}$
3)	$20\frac{8}{14}$	8) $\frac{3}{9}^{5}$ 9) $\frac{25}{30}^{2}$
4)	4	9) $\frac{25}{30}$
5)	$7\frac{2}{6}$	10) $9\frac{2}{15}$

Volunteers will be called to show their illustrations on the board. The teacher will use these illustrations in processing the worked examples.

The teacher may use a table to organize the possible solutions for each example.

Since the pupils can already add and subtract fractions with regrouping, as discussed in the previous lesson, the teacher may

3. Lesson Activity

To make this activity more engaging, the learners will play the "Fraction Relay".

Set A	Set B
1) $15\frac{5}{15} - 15 =$	1) $1 - \frac{3}{16} =$
2) $6 - 4\frac{7}{10} =$	$2) - 3\frac{5}{16} = 4\frac{11}{16}$
3) $8\frac{3}{11} + 5 =$	3) $4\frac{2}{5} + _ = 6\frac{2}{5}$
4) $17\frac{1}{12} + 3 =$	4) + $3\frac{7}{9} = 7\frac{7}{9}$
5) $6 - 5\frac{12}{21} =$	5) $12 - 8\frac{6}{24} =$

do some review/recall. This will help the pupils better comprehend the next lesson.

The learners will be grouped into five groups. Members of each group will be seated in a single line. Each learner will be provided a sheet of paper containing the math problem he/she needs to answer. The 1st in the line will begin answering the 1st question. Subsequently, this learner will pass his/her paper to the one seated behind him/her. This process will continue until the last learner per group receives the papers, including his/her answer. The group with the greatest number of correct items will be the winner. In the event of a tie, the fastest group among the highest pointers will be the winner.

For Sub Topic 5: Worked Example

Examples 1 - 4: (Method 1)

- Change both the whole number and the mixed number to improper fractions
- Subtract the numerators.
- Copy the common denominator

				 Examples 1 – 3: (Method 2) Simply add or subtract the whole numbers and copy the proper fraction. Example 4: (Method 2) Change the whole number to a mixed number whose fractional part is an improper fraction. Subtract the whole numbers. Subtract the numerators Copy the common denominators
				Answers for the Lesson Activity (Sub Topic 5): SET A SET B 1) $\frac{5}{15}$ 6) $\frac{13}{16}$ 2) $\frac{13}{10} or 1 \frac{3}{15}$ 7) 8 3) $13 \frac{3}{11}$ 8) 2 4) $20 \frac{1}{12}$ 9) 4 5) $\frac{9}{21}$ 10) $3\frac{18}{24}$
D. Making Generalizations	1. Learners' Takeaways The teacher will guide the learners Key Ideas/Concepts L Addition and Subtraction of two proper fractions Addition and Subtraction of two mixed numbers Addition and Subtraction of a mixed number and a proper fraction Image: Concept (Concept (C	plishing this table Concepts that are Somewhat Confusing	e. Concepts I Totally Don't Understand	

Addition and Subtraction of a whole number and a proper fraction
Addition and Subtraction of a
 2. Reflection on Learning The learners will complete the following statements: "I realized that adding and subtracting fractions of different kinds offers a lot of opportunities to".
"My most favorite part of the lesson is because".

IV. EVALUATING LEAR	NOTES TO TEACHERS			
A. Evaluating Learning	1. Formative Assessment Perform the indicated opera 1. $\frac{18}{21} - \frac{4}{21}$ 6. 2. $\frac{8}{14} + \frac{5}{14}$ 7. 3. $3\frac{6}{7} - 1\frac{1}{7}$ 8. 4. $3\frac{3}{5} + 4\frac{2}{5}$ 9. 5. $3\frac{4}{17} + 4$ 10 2. Homework (Optional) 10			
B. Teacher's Remarks	Note observations on any of the following areas:	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
	strategies explored			
	materials used			

	learner engagement/ interaction			used, learner engagement, and other related stuff.
	others			Teachers may also suggest ways to improve the different activities explored/lesson exemplar.
C. Teacher's Reflection	 Reflection guide or prompt can be on: <u>principles behind the teaching</u> What principles and beliefs informed my lesson? Why did I teach the lesson the way I did? <u>students</u> What roles did my students play in my lesson? What did my students learn? How did they learn? <u>ways forward</u> What could I have done differently? What can I explore in the next lesson? 			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.