



Lesson Exemplar for Mathematics



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IMPLEMENTATION OF THE MATATAG K TO 10 CURRICULUM

Lesson Exemplar for Mathematics Grade 4 Quarter 3: Lesson 1 (Week 1) SY 2024-2025

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MATHEMATICS / QUARTER 3 / GRADE 4

I. CURRICULUM CONTEN	NT, STANDARDS, AND LESSON COMPETENCIES
A. Content Standards	The learner should have knowledge and understanding of dissimilar and equivalent fractions
B. Performance Standards	By the end of the quarter, the learners are able to represent, compare, and order dissimilar fractions.
C. Learning Competencies and Objectives	 Represent dissimilar fractions, with denominators up to 10, using models. Generate equivalent fractions using models
D. Content	Modelling dissimilar fractions with denominators up to 10 using: • fraction strips/bars • fraction disks/circles • number line Modelling equivalent fractions using: • fraction strips/bars • fraction disks/circle • number line
E. Integration	Integration of Fairness, Equality, and Diversity

II. LEARNING RESOURCES

BYJU's. (2024). Fraction on the Number Line. <u>https://byjus.com/maths/fractions-on-the-number-line/</u> Cuemath. (n.d.). Fractions on Number Line. <u>https://www.cuemath.com/numbers/fractions-on-number-line/</u> Hoo L.C, Sachidanandan R. (2016). *Discover Math 3* (1st ed.). Marshall Cavendish Education. Song J, Chen T.H, Shing L. H. (2016). *Discover Math 4* (1st ed.). Marshall Cavendish Education. Toy Theater. (n.d.). Teacher Tools. <u>https://toytheater.com/category/teacher-tools/</u>



	$\frac{\frac{5}{5} \text{ or } 1 \text{ whole}}{\frac{2}{5}}$ $\frac{\frac{1}{8}}{\frac{4}{8}}$	Improper Whole Number Proper Proper Proper	Since the pupils already have prior knowledge of the kinds of fractions, they may be asked to explain the concepts of proper and improper fractions, as well as mixed numbers. This may be included in their presentation of answers to the whole class. • Proper fraction – less than 1
The pupils will be asked to pres 2. Set of fractions with the same denominators. The pupils will b sets of fractions, of which 1 denominators and two sets denominators. They will also na Fraction Model	ent and explain the e denominators am be asked to classify set is composed are composed ame each given fra Naming Fractio	neir answers to the class. Table ad set of fractions with differen y the fractions by forming three of fractions with the same of fractions with differen action. Kind of Fraction (Set)	 whole, the numerator is less than the denominator Improper fraction – greater than or equal to 1 whole, the numerator is greater than or equal to the denominator Mixed number – has a whole number and a proper fraction, greater than 1
	$\frac{\frac{3}{4}}{\frac{5}{4}} \text{ or } 1\frac{1}{4}$ $\frac{\frac{5}{5}}{\frac{5}{5}} \text{ or } 1 \text{ whole}$ $\frac{1}{8}$		whole In Table 2, the pupils will only answer the 3rd column once the concept of dissimilar fractions has been thoroughly introduced. Its completion will be done by the pupils as guided by the teacher.
The pupils will be asked to prese 2. Feedback (optional)	$\frac{\frac{1}{6}}{\frac{2}{5}}$ ent and explain th	eir answers to the whole class	Note: (optional) The teacher may use the outputs of pupils in Table 2 when presenting the lesson about ordering dissimilar fractions.

B. Establishing Lesson Purpose	 Lesson Purpose To process the activity in table 2, the teacher will ask the following:	 After each answer, the teacher may give these follow-up questions: What do you call a set of fractions with the same denominators? (Recall of Q2 lesson) If fractions with the same denominators are called similar fractions, what do you call fractions with different denominators? (You may use puzzles to give clues) s1_r fractions Highlight that both similar and dissimilar fractions can be a combination of different kinds of fractions such as proper fraction, and mixed/whole numbers.
C. Developing and Deepening Understanding	 SUB-TOPIC 1: Modelling dissimilar fractions with denominators up to 10 using fraction strips/bars, fraction disks/circles, and number line Explicitation Title: Paper Folding and Coloring Activity The teacher will read the following statements to make the activity more fun and engaging as the pupils simultaneously model these problems using paper folding and coloring. Paper 1: Kim has a rectangular cake divided into four equal parts. She wants to give her friends one slice each. If she has two friends, how much part of the cake was distributed among her friends? Paper 2: Theon divided his paper into eight equal parts and shaded half of it. What fraction represents the shaded part? 	$\frac{2}{4}$

Paper 3: Rapha's rectangular vegetable garden was equally divided into three parts. He plans to plant tomato seeds in 1 part of the garden and mongo seeds in the rest of the vegetable garden. What part of the garden will be planted with tomato seeds?	$\frac{1}{3}$
Paper 4: Kelvin decided to divide his paper into six equal parts and shaded two parts of it. What fraction represents the shaded part?	$\frac{2}{6}$
To process the activity, the teacher will ask the following after some pupils have already posted their outputs on the board: 1. Taken individually, what kind of fraction is each of the examples? - Proper fraction	Volunteers will be asked to post their outputs on the board.
 Taken as a group or set, what have you noticed with their denominators? They have different denominators What do you call a set of fractions with different denominators? Dissimilar fractions 	
4. What have you noticed with shaded parts of the dissimilar fractions $\frac{2}{4}$ and $\frac{4}{8}$? $\frac{1}{3}$ and $\frac{2}{6}$?	The concept of equivalent fractions can be initially
 value of the shaded parts seems the same but different in the number of equal parts the whole was divided. - ²/₄ and ⁴/₈ have the same value - ¹/₃ and ²/₆ have the same value 	introduced in this part. However, inform the pupils that further exploration and more detailed discussion on this topic will be included in the next lesson.
Dissimilar fractions are sets of fractions with different denominators. These sets of fractions may include proper fractions, improper fractions, mixed/whole numbers, or combination thereof. Visual representation of dissimilar fractions may help us see fractions in a tangible way and understand better those different denominators represent varying parts of the whole. Now, let us work on more examples using manipulatives.	
2. Worked Example Using fractions strips and/or fraction bars, the pupils will model the following sets dissimilar fractions: $a. \frac{3}{5}, \frac{2}{3}$	In this part, the teacher will give sets of dissimilar fractions, while the pupils will be asked to illustrate them using fraction strips/bars, fraction discs/circles, and number lines.



Using fractions disks/fraction bars, the pupils will model the following sets dissimilar fractions:



that pupils with prior knowledge of adding similar fractions can apply their understanding of the previous lesson when illustrating dissimilar fractions.

However, it is essential to note

Options for the teacher Option 1: Individual The teacher may ask the pupils to make their fraction strips and fraction disks either in school as an art project or at home as an assignment assisted by their parents.

Volunteers will be asked to show their illustrations in class using either fraction strips or fraction discs.

Option 2: Group

In case of time constraints, the teacher may divide the class into six groups. Specifically, two groups will receive teacher-made fractions strips, and two will receive fraction disks/circles. The remaining two groups will illustrate dissimilar fractions using number lines.

A representative from each group will show the illustrations in the class using either fraction strips or fraction discs.

Using a number line, the pupils will model the following sets dissimilar fractions:



DAY 2

3. Lesson Activity

Complete the table below. For numbers 1 -3, illustrate each set of fractions by drawing any of the following: (a) fraction bars/strips, (b) fraction discs/circles, (c) number lines. For numbers 4 -5, given the fraction models, name the set of dissimilar fractions.

No.	Dissimilar Fractions	Fraction Model
	8	
1	<u> </u>	
1	3	
	7	
	3	
2 –	2	
_	<u>0</u>	
	1 <u>1</u>	
	4	
3	$\frac{2}{2}$	
	<u>1</u>	
	5	
4		4/2 10 1 3
5		

Additional Manipulative for Worked Example: If available, Cuisenaire rods can also be utilized in modeling fractions. These are rectangular rods of 10 different colors. The teacher may refer to this link to learn more about these manipulatives: <u>https://www.han</u> <u>d2mind.com/blog/how-to-usecuisenaire-rods</u>

Very Important!

Before asking the pupils to model the fractions using the number line, the pupils should initially be guided on how to divide the number line considering the denominators of the given fractions. To do this, the teacher may elucidate the following concepts:

The unit in the number line should be divided equally by the given denominator. For instance, if the fraction is 6/10, the number line from 0 to 1 must be divided into ten equal parts.

When dealing with proper fractions, they should be positioned between 0 and 1 on the number line. Conversely, if it is an improper fraction or a whole/mixed number, the

DAY 3 SUB-TOPIC 2: Modelling equivalent fractions using fraction strips/bars, fraction disks/circle, and number line	fraction should be placed at one or beyond.
 fraction disks/circle, and number line <i>Matching Fraction Twin Cards</i> The teacher will place fraction cards with the illustrations/models under the pupils' chairs. The pupils who find a fraction card under their chairs will find their match by looking for a classmate holding a fraction card with the same value. Those who found their twin card will be asked to stay in front to introduce their fraction cards. After the introduction, the twin cards will be posted on the board. For the introduction, the pupils will show their fraction cards and say: I am ²/₃ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₃ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₉ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₉ and I am ⁴/₅. We are fractions of the fraction cards: I are ²/₉ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₁ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₁ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₁ and I am ⁴/₅. We are fractions with the same value or quantity. Below are the models found on each of the fraction cards: I are ²/₁ and I am ⁴/₅. We are fractions with the denominators of each pair of fractions? They have different denominators. 2. What have you noticed with their numerators? They have different numerators. 3. How were you able to identify your twin fractions? I looked for fr	 Below are the procedures for plotting fractions on the number line: 1. Draw a number line. 2. For proper fractions, mark the points 0 and 1. If the given is a mixed number or improper fraction, mark the points beyond 1. 3. Divide the number line into equal parts following the denominator of the fraction. 4. Starting from 0, count to the right the number of parts following the numerator. 5. Mark the point on the number line.
examples using other visual representations.	$\frac{1}{3}$ $\frac{1}{3}$ $\frac{6}{8}$





	c. $\frac{1}{6}, \frac{2}{12}$ (using	number line)	$\begin{array}{c c} \bullet & \bullet \\ \bullet & \bullet \\ 0 & \frac{1}{6} & \frac{2}{6} \end{array}$	$\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$ $\frac{1}{1}$	This should be elicited from the pupils as guided by the teacher.
D. 3.	AY 4 Lesson 4 Choose f each of t line. Use	Activity from the box the f hem using either the table provide	$\begin{array}{c c} & & & & \\ & & & \\ 0 & \frac{1}{12} & \frac{2}{12} & \frac{3}{12} & \frac{4}{12} \end{array}$	$\frac{5}{12} \frac{6}{12} \frac{7}{12} \frac{8}{12} \frac{9}{12} \frac{10}{12} \frac{11}{12} \frac{12}{12} \frac{12}{12}$ The given fraction. Then, detion disks/circle, or numbers.	 Options: Draw on a sheet of paper Call volunteers to draw on the board Use manipulatives and model them to the class (fraction disks and strips)
			$\frac{3}{2} \frac{8}{10} \frac{10}{12} \frac{3}{12} \frac{4}{6} \frac{1}{4}$		Answers for the Lesson Activity 1. $\frac{2}{3}$ and $\frac{4}{6}$
	No.	Fraction Model to be used	Given Fraction	Equivalent Fraction	
	1	Fraction disks/circles	$\frac{2}{3}$ Model:	Model:	2. $\frac{1}{6}$ and $\frac{1}{12}$
	2	Fraction bars/strips	5 6 Model:	Model:	3. $\frac{1}{5}$ and $\frac{1}{10}$ $\stackrel{1}{\overset{0}{\overset{0}{\overset{0}{\overset{0}{\overset{0}{\overset{0}{\overset{0}{\overset$
	3	Number line	4 5 Model:	Model:	4. $\frac{2}{8}, \frac{3}{2}, \text{ and } \frac{1}{4}$
	4	Fraction bars/strips	$\frac{2}{8}$ Model:	Model:	5. $\frac{6}{4}$ and $\frac{3}{2}$ $\stackrel{\bullet}{\longrightarrow}$ $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}$
	5	Number line	$\frac{\frac{6}{4}}{Model}$	Model:	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

D. Making Generalizations	1. Learners' Takeaways To summarize their learning, the pupils will be asked to complete the graphic organizer. Fill in the missing words to complete the statements. <i>I learned that</i>	Dissimilar Fractions Dissimilar Fractions are set of fractions with denominators.	The teacher may relate equivalent fractions with fair sharing, equality, and diversity.
	 2. Reflection on Learning On the importance understanding the content of the lesson How can the lesson on modeling dissimilar and equivalent fractions be valuable in one's daily life? Give instances when these lessons can be of help to you. On the values related to Fairness, Equality, and Diversity When you want to share your chocolates e do you do to ensure everyone gets a fair point What do you do to ensure that every member to speak or share his/her thoughts during Cite instances or situations where you show opinions. 	Equivalent fractions are fractions with and denominators Equivalent Fractions are fractions with Equivalent Fractions are fractions with the same Models such as equally with your friends, what rtion? er is given the same opportunity a group activity? w respect for those with varying	The teacher may ask the pupils to reflect on the following and share their thoughts in class.

IV. EVALUATING LEARN	NOTES TO TEACHERS	
A. Evaluating Learning	 DAY 5 1. Formative Assessment Draw/Model the fractions using fraction bars/strips, fraction circles/disks, and number lines. Then, determine whether these fractions are equivalent or not. Put a check (/) if the fractions are equivalent and (x) if they are not. 	Answers to the Formative Assessment: 1. Not Equivalent (x)

		No.	Fraction	Fraction Model	Equivalent Not Equivale	:/ ent	2. Not Equivalent (x)
		1	$\frac{2}{12}, \frac{3}{8}, \frac{6}{5}$	Using Fraction Circles/Disks			3. Equivalent (/)
		2	$\frac{7}{10}, \frac{4}{5}, \frac{9}{12}$	Using Fraction Strips/Bars			$\begin{array}{c c c c c c c c c c c c c c c c c c c $
		3	$\frac{4}{3}, \frac{8}{6}$	Using Number Line			$0 \frac{1}{6} \qquad \qquad \frac{6}{6} \frac{8}{6}$
		4	$\frac{10}{15}, \frac{2}{3}, \frac{4}{6}$	Using Number Line			4. Equivalent (/) $\leftarrow 111111111111111111111111111111111111$
		5	$\frac{3}{6}, \frac{3}{8}, \frac{3}{2}$	Using Fraction Disks/Circles			$\begin{array}{c c} \bullet & \bullet \\ \bullet & \bullet \\ 0 & \frac{2}{3} \\ \bullet & \bullet \\ \bullet & \bullet \\ \end{array}$
	2.	Home	ework (Option	al)			$\begin{array}{c} \bullet \\ 0 \\ \bullet \\ \hline \\ \hline$
B. Teacher's Remarks	No of	ote obse the foli	ervations on an lowing areas:	y Effective Practices	Problems Encount	tered	The teacher may take note of some observations related to the
	st	rategi	es explored				encountered after utilizing the different strategies, materials
	m	ateria	ls used				used, learner engagement, and other related stuff.
	le in	arner teract	engagement/ ion				Teachers may also suggest ways to improve the different activities explored/lesson exemplar.
	ot	hers					

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 a could I have done differently? 	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.
	What can I explore in the next lesson?	