

5

Lesson

**Exemplar
for Mathematics**

Quarter 2
Lesson

1

5

Lesson Exemplar for Mathematics Grade 5
Quarter 2: Lesson 1 (for Week 1)
SY 2024-2025

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MATHEMATICS/QUARTER 2/ GRADE 5

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES

A. Content Standards	<i>The learner should have knowledge and understanding of division of fractions.</i>
B. Performance Standards	<i>By the end of the quarter, the learners are able to divide fractions.</i>
C. Learning Competencies and Objectives	By the end of the quarter, the learners are able to divide fractions using models.
C. Content	Division of Fractions Using Models
D. Integration	Sharing Measurement in cooking (Recipes)

II. LEARNING RESOURCES

Baby Croissants (6 pieces). Sonder. <https://sonder.sg/products/baby-croissants-6-pieces>

Pizza fractions flash cards. Teacher Pay Teachers.

<https://www.teacherspayteachers.com/browse?search=pizza%20fractions%20flash%20cards>

Math Clip Art-Fraction Concepts--Fractions on a Number Line-Fourths-3 | Media4Math

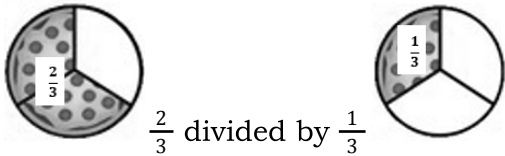
https://www.media4math.com/sites/default/files/library_asset/images/MathClipArt--FractionsOnNumberLines--Fourths-3.png

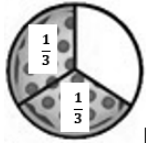
Math Clip Art--Fraction Concepts--Fractions on a Number Line-Eighths-7 | Media4Math

https://www.media4math.com/sites/default/files/library_asset/images/MathClipArt--FractionsOnNumberLines--Eighths-7.png

Vann, W. (n.d.). *Fractions*. EduPic Graphical Resource. <http://edupic.net/fractions.htm>

Fraction Disks or Fraction Models, Number Line (if available)

III. TEACHING AND LEARNING PROCEDURE	NOTES TO TEACHERS
A. Activating Prior Knowledge DAY 1 1. Short Review Recall the concept of division as “equal sharing”. Let us read and analyze the given word problem. Jen is preparing identical loot bags for her birthday. She plans to give away the loot bags to street children. She has 135 pieces of goodies and 15 party bags. How many goodies must she put in each party bag? How many groups of 15 are there in 135? The answer is 9. Therefore, Jen must put 9 goodies in each loot bag.	The teacher may ask the following questions: How will you solve the problem? (The pupil may use division) What strategy will you use? (the pupils may answer the following: skip counting, repeated addition or long division) Solution: (The pupils will explain their solution and when the given solution is not clear, the teacher may ask the question below:
B. Establishing Lesson Purpose 1. Lesson Purpose Let us try this activity. Suppose the given numbers in a division problem are fractions, how will you find the quotient? Use models to find the quotient. Divide $\frac{2}{3}$ by $\frac{1}{3}$.  $\frac{2}{3}$ divided by $\frac{1}{3}$ How many <i>thirds</i> or $\frac{1}{3}$ are there in $\frac{2}{3}$?	The teacher may use fraction discs or models (if available) and pictorial representations. Count how many thirds there are in $\frac{2}{3}$. There are two $\frac{1}{3}$s in $\frac{2}{3}$. Therefore, $\frac{2}{3} \div \frac{1}{3} = 2$



In this week's lesson we will learn how to divide fractions using models.

C. Developing and Deepening Understanding

SUB-TOPIC 1: Dividing Fractions Using Models

1. Explicitation

Like in whole number division, dividing fractions means equal sharing or grouping.

Let us solve the following problem using models and number lines.

A baker is making croissants. Each croissant is made from pound of dough. If the baker has pound of dough, how many croissants can he make?



Solution Using Models:

How many *eighths* or $\frac{1}{8}$ s are there in $\frac{3}{4}$?

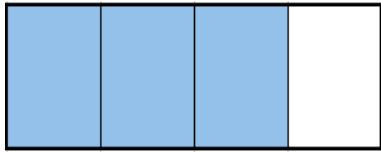
$$\frac{3}{4} \div \frac{1}{8} = N$$

How would you show how many $\frac{1}{8}$ s there are in $\frac{3}{4}$?

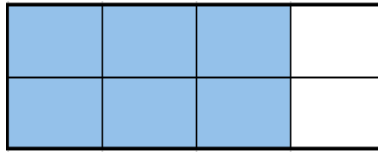
Since the unit of measure used in the given word problem is pounds (lb), the teacher may include additional information on this unit such as the following:

- The abbreviation "lb" comes from the Latin word "libra," which means pound.
- One pound (1 lb) is equivalent to approximately 0.45 kilograms or half a kilogram.

The teacher may explain that the number sentence $\frac{3}{4} \div \frac{1}{8} = N$ represents the number of $\frac{1}{8}$ s in $\frac{3}{4}$. Models like fraction bars, discs, or pictorial representations may be used to illustrate fraction division.



$$\frac{3}{4}$$



$$\frac{6}{8}$$

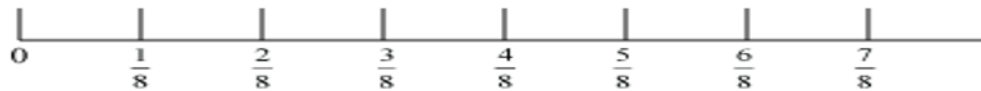
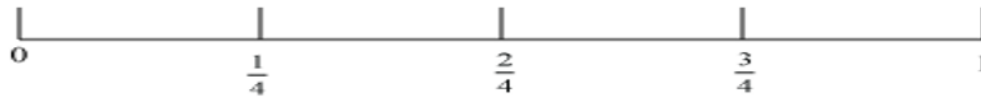
Notice that $\frac{3}{4} = \frac{6}{8}$.

There are 6 *eights* (or $\frac{1}{8}$) in $\frac{3}{4}$. Therefore, the baker can make **6** croissants.

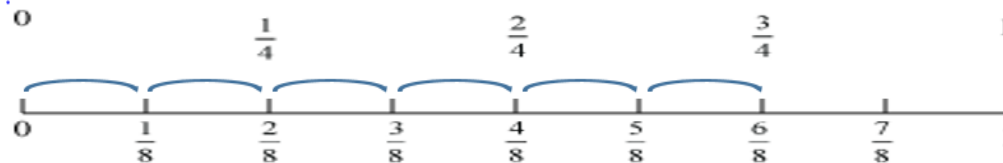
$$\frac{3}{4} \div \frac{1}{8} = 6$$

Using Number Lines

Show $\frac{3}{4}$ and *eights* on a number line.



Then, show and count equal jumps of *eights* on a number line.



$\frac{3}{4}$ and $\frac{6}{8}$ are equivalent fractions.

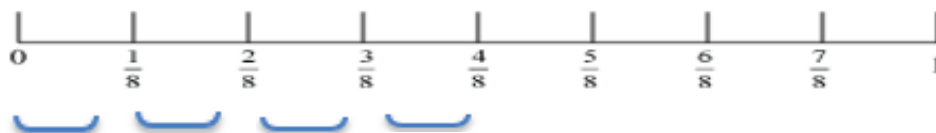
The teacher may explain that number lines can be utilized to model division of fractions.

There are **6** equal jumps of *eighths* on the number line. Therefore, the baker can make **6** croissants.

2. Worked Example

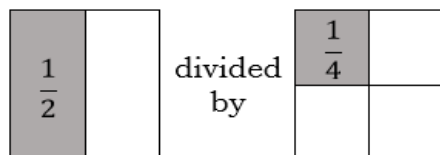
Let us have more examples of fraction division using models.

Example 1: Divide $\frac{4}{8}$ by $\frac{1}{8}$.

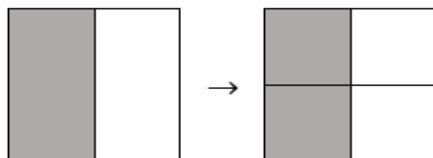


There are **four** $\frac{1}{8}$ s in $\frac{4}{8}$.

Example 2: Divide $\frac{1}{2}$ by $\frac{1}{4}$.



How many *fourths* or $\frac{1}{4}$ s are there in $\frac{1}{2}$?

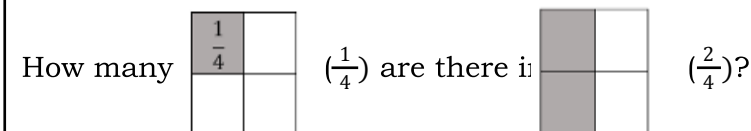


There are two $\frac{1}{4}$ s in $\frac{1}{2}$.

Therefore $\frac{1}{2} \div \frac{1}{4}$ is equal to 2.

The teacher may further explain how the concepts of **common denominators and equivalent fractions** are applied to model fraction division.

For instance, 4 is a common denominator of $\frac{1}{2}$ and $\frac{1}{4}$. $\frac{2}{4}$ is an equivalent fraction of $\frac{1}{2}$. Hence, dividing $\frac{1}{2}$ by $\frac{1}{4}$ is the same as dividing $\frac{2}{4}$ by $\frac{1}{4}$.



The illustration shows that there are **two** $\frac{1}{4}$ s in $\frac{2}{4}$.

The teacher may likewise emphasize that the least common denominator (LCD) is practically preferred in identifying common denominators, although other common denominators can also be

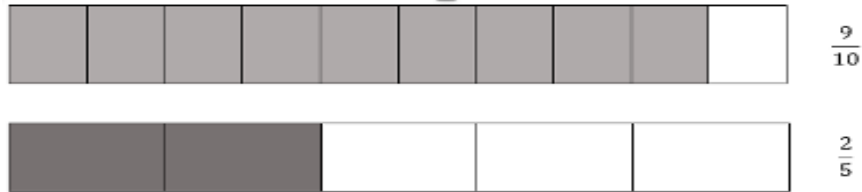
DAY 2

Example 3: Find the quotient.

$$\frac{9}{10} \text{ divided by } \frac{2}{5} = n$$

$$\frac{9}{10} \div \frac{2}{5} = n$$

Illustrate $\frac{9}{10}$ and $\frac{2}{5}$.



How many $\frac{2}{5}$ s are there in $\frac{9}{10}$?

Notice that $\frac{2}{5} = \frac{4}{10}$.



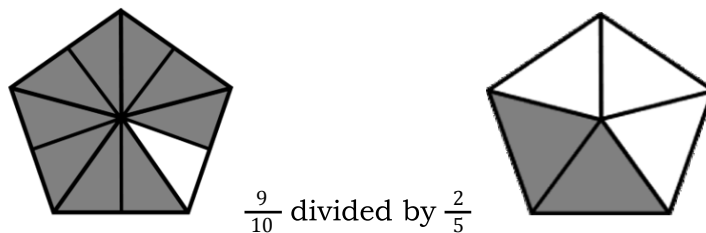
Therefore, $\frac{9}{10} \div \frac{2}{5} = 2\frac{1}{4}$

Here is another illustration to solve the same division problem.

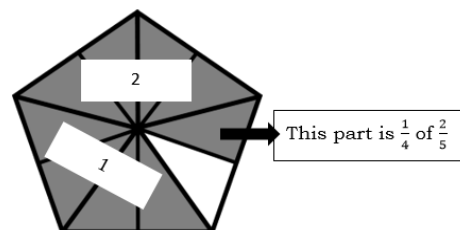
Solution:

utilized. The advantage of LCD is that it simplifies calculation since it deals with smaller values.

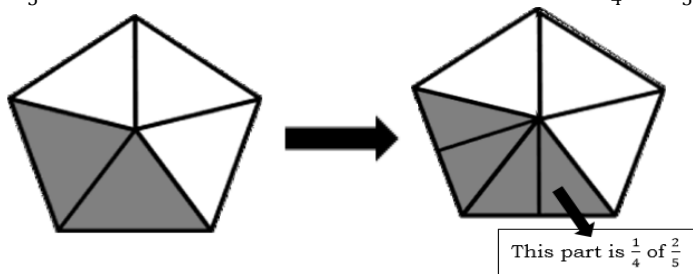
$\frac{2}{5}$ and $\frac{4}{10}$ are equivalent fractions.



Count how many $\frac{2}{5}$ s there are in $\frac{9}{10}$.



If $\frac{2}{5}$ is divided into 4 equal parts, 1 part is $\frac{1}{4}$ of $\frac{2}{5}$.



Therefore, there are $2\frac{1}{4}$ two-fifths in $\frac{9}{10}$.

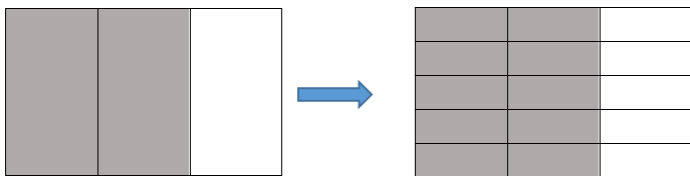
This means that $\frac{9}{10} \div \frac{2}{5} = 2\frac{1}{4}$ or $\frac{9}{4}$.

Example 4: Find the quotient.

$$\frac{2}{3} \div \frac{1}{5} = n$$

How many $\frac{1}{5}$ s are there in $\frac{2}{3}$?

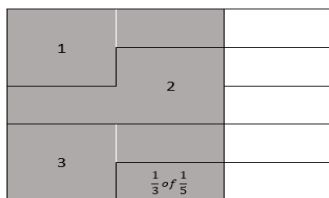
To elaborate further, the teacher may reiterate how the concepts of **common denominators** and **equivalent fractions** are applied in this part.



Divide $\frac{2}{3}$ into 5 equal parts.

In the whole, $\frac{1}{5}$ is made up of 3 parts. ($\frac{1}{5} = \frac{3}{15}$)

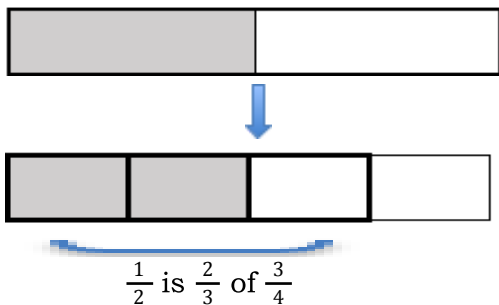
Therefore, $\frac{2}{3} \div \frac{1}{5} = 3\frac{1}{3}$



Example 5: Find the quotient.

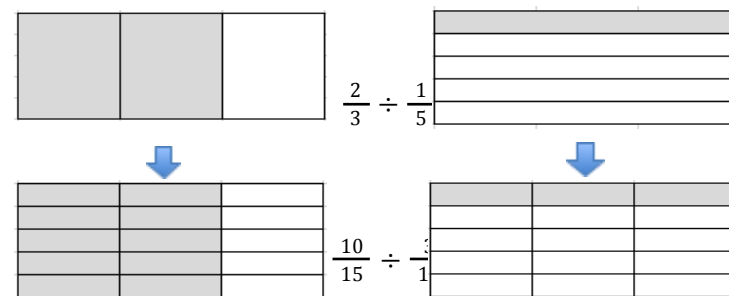
$$\frac{1}{2} \div \frac{3}{4} = n$$

How many $\frac{3}{4}$ s are there in $\frac{1}{2}$?

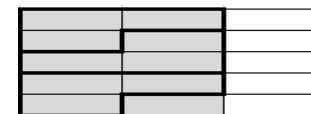


For instance, $\frac{2}{3}$ is equivalent to $\frac{10}{15}$, and $\frac{1}{5}$ can be expressed as $\frac{3}{15}$. To determine how many $\frac{3}{15}$ s are there in $\frac{10}{15}$, the fraction $\frac{10}{15}$ can be divided by $\frac{3}{15}$.

Using models can help illustrate the answer, which is $3\frac{1}{3}$.



How many $\frac{3}{15}$ s are there in $\frac{10}{15}$?



The model shows that there are $3\frac{1}{3}$ three-fifteenths in $\frac{10}{15}$.

Therefore, $\frac{1}{2} \div \frac{3}{4} = \frac{2}{3}$

DAY 3

3. Lesson Activity

Refer to the Worksheet, activity 1, which the learners will accomplish.
Find the quotient using models.

a) $\frac{6}{7} \div \frac{1}{7} = n$

b) $\frac{9}{10} \div \frac{3}{10} = n$

c) $\frac{5}{8} \div \frac{5}{16} = n$

d) $\frac{4}{5} \div \frac{2}{15} = n$

Refer to the Worksheet, activity 2, which the learners will accomplish.
Find the quotient using models.

a) $\frac{1}{4} \div \frac{3}{8} = n$

b) $\frac{3}{7} \div \frac{3}{4} = n$

c) $\frac{2}{3} \div \frac{1}{4} = n$

d) $\frac{7}{12} \div \frac{5}{6} = n$

If it is deemed necessary to give part of the Lesson Activity on DAY 2 intended for DAY 3, the teacher may already ask the learners to answer some items in the lesson activity.

Solution for Worksheet No. 1
Find the quotient using models.

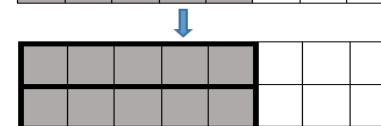
a) $\frac{6}{7} \div \frac{1}{7} = 6$



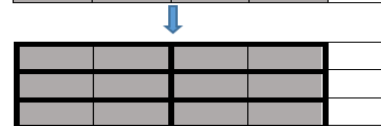
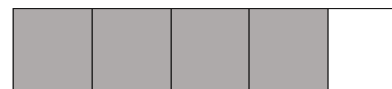
b) $\frac{9}{10} \div \frac{3}{10} = 3$



c) $\frac{5}{8} \div \frac{5}{16} = 2$

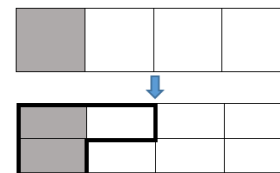


d) $\frac{4}{5} \div \frac{2}{15} = n$



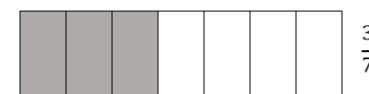
Solution for Worksheet No.2
Find the quotient using models.

a) $\frac{1}{4} \div \frac{3}{8} = \frac{2}{3}$

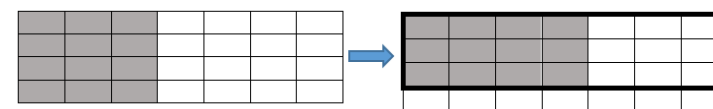


Note that $\frac{1}{4}$ is $\frac{2}{3}$ of $\frac{3}{8}$.

b) $\frac{3}{7} \div \frac{3}{4} = \frac{4}{7}$



Note that $\frac{3}{4} = \frac{21}{28}$.

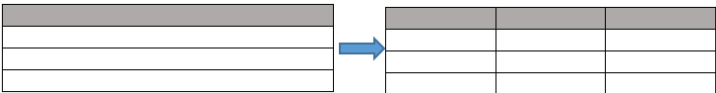
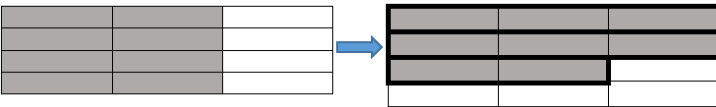
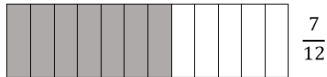


$\frac{3}{7}$ may be illustrated by transferring the shaded part in the last row to column 4.

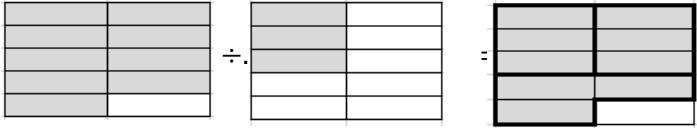
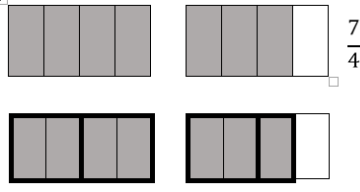
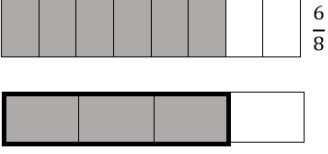
Note that $\frac{3}{7}$ is $\frac{12}{21}$ or $\frac{4}{7}$ of $\frac{3}{4}$

c) $\frac{2}{3} \div \frac{1}{4} = 2\frac{2}{3}$



		 $\frac{1}{4} = \frac{3}{12}$  d) $\frac{7}{12} \div \frac{5}{6} = \frac{7}{10}$  $\frac{7}{12}$  $\frac{5}{6}$  $\frac{5}{6}$ is $\frac{7}{10}$ of $\frac{7}{12}$
D. Making Generalizations	1.Learners' Takeaways Give words or phrases you remember from the lesson. 2.Reflection on Learning a) Give instances when these lessons can be of help to you. b) In cooking or baking, what will happen if you do not follow the correct measurements or amount of ingredients?	The teacher may ask the students the question and write the words or phrases on the board. Example: 1. Division is sharing. 2. Division means equals jumps on the number line. 3. The answer in division is called quotient. Sample answers: a) equal sharing; in preparing identical loot bags or identical sets; in cooking or baking

		It will not result in the desired consistency or will not taste good.
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IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	DAY 4 Formative Assessment Answer the following questions through models: 1) Divide $\frac{9}{10}$ by $\frac{3}{10}$. 2) How many $\frac{1}{2}$ (halves) are there in $\frac{7}{4}$? 3) How many $\frac{3}{4}$s are there in $\frac{6}{8}$? 4) Find the quotient of $\frac{1}{4}$ divided by $\frac{5}{6}$. 5) In whole number division, a number divided by itself equals 1. Does this apply to fractions? Justify through an example.	See Worksheet Number 3 Answers: 1)  $\frac{9}{10} \div \frac{3}{10} = 3$; Hence, there are 3 three-tenths in $\frac{9}{10}$. 2)  There are $3\frac{1}{2}$ halves in $\frac{7}{4}$. $\frac{7}{4} \div \frac{1}{2} = 3\frac{1}{2}$ 3)  There is <i>one</i> $\frac{3}{4}$ in $\frac{6}{8}$.

				$\frac{6}{8} \div \frac{3}{4} = 1$ 4) $\frac{5}{6} = \frac{20}{24}$ $\frac{5}{6} \text{ is } \frac{6}{20} \text{ or } \frac{3}{10} \text{ of } \frac{1}{4}$ 5) YES example: $\frac{2}{8} \div \frac{2}{8} = n$ How many $\frac{2}{8}$s are there in $\frac{2}{8}$? $\frac{2}{8} \div \frac{2}{8} = 1$
B. Teacher's Remarks	<i>Note observations on any of the following areas:</i>	Effective Practices	Problems Encountered	Teachers are encouraged to record relevant observations or any critical teaching events that influence the attainment of the lesson objectives. Use or modify the provided template in recording the notable instructional areas or concerns. In addition, notes here can also be on tasks that will be continued the next day or additional activities needed.
	strategies explored			
	materials used			

	<i>learner engagement/ interaction</i>			
	<i>Others</i>			
C. Teacher's Reflection	<i>Reflection guide or prompt can be on:</i> ▪ <u><i>principles behind the teaching</i></u> <i>What principles and beliefs informed my lesson?</i> <i>Why did I teach the lesson the way I did?</i> ▪ <u><i>students</i></u> <i>What roles did my students play in my lesson?</i> <i>What did my students learn? How did they learn?</i> ▪ <u><i>ways forward</i></u> <i>What could I have done differently?</i> <i>What can I explore in the next lesson?</i>			Entries on this section are teacher's reflections about the implementation of the whole lesson, which will serve as input for the LAC sessions. Use or modify the provided guide questions in eliciting teacher's insights.