4

DepEd
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 3
Lesson

3

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

Development Team

Writer:
- Kimberly Gomez-Mallari, Ph.D. (City College of San Fernando Pamapanga)

Validator:
- Lalaine Ann F. Manuel Ph.D. (Central Luzon State University)

Management Team

Philippine Normal University
Research Institute for Teacher Quality
SiMERR National Research Centre

Every care has been taken to ensure the accuracy of the information provided in this material. For inquiries or feedback, please write or call the Office of the Director of the Bureau of Learning Resources via telephone numbers (02) 8634-1072 and 8631-6922 or by email at blr.od@deped.gov.ph.

MATHEMATICS / QUARTER 3 / GRADE 4

<table>
<tr><th colspan="2">I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES</th></tr>
<tr>
<td>A. Content Standards</td>
<td>The learner should have knowledge and understanding of …
dissimilar and equivalent fractions</td>
</tr>
<tr>
<td>B. Performance Standards</td>
<td>By the end of the quarter, the learners are able to …
represent, compare, and order dissimilar fractions.</td>
</tr>
<tr>
<td>C. Learning Competencies and Objectives</td>
<td>1. Reduce fractions to simplest form.
2. Compare dissimilar fractions using the symbols =, >, and <.</td>
</tr>
<tr>
<td>D. Content</td>
<td>1. Reducing fractions to simplest form using GCF
2. Comparing dissimilar fractions using symbols <, >, and =.
    ● Comparing dissimilar fractions using models
    ● Comparing dissimilar fractions</td>
</tr>
<tr>
<td>E. Integration</td>
<td>Equality, Fairness, and Collaboration</td>
</tr>
</table>

<table>
<tr><th>II. LEARNING RESOURCES</th></tr>
</table>

BYJU's. (n.d.). *Representing Mixed Numbers on the Number Line*. Retrieved December 30, 2023, from https://byjus.com/question-answer/represent-the-following-fractions-on-the-number-line-a-frac-2-5-b-frac-7/%0A

Camarista, Genesis G Oranio, I. B. (2020). *Teaching Mathematics in the Intermediate Grades*. Lorimar Publishing Inc.

Cuemath. (n.d.). *Fraction on the Number Line*. Retrieved December 30, 2023, from https://www.cuemath.com/numbers/fractions-on-number-line/

Hand2Mind. (n.d.). *How to Use Cuisenaire Rods to Teach Key Math Concepts!* Retrieved December 30, 2023, from https://www.hand2mind.com/blog/how-to-use-cuisenaire-rods

Hoo L.C, Sachidanandan R. (2016). *Discover Math 3* (1st ed.). Marshall Cavendish Education.

PDST. (n.d.). *Fraction Dice Games*. Retrieved December 30, 2023, from https://www.scoilnet.ie/uploads/resources/34565/34316.pdf

Song J, Chen T.H, Shing L. H. (2016). *Discover Math 4* (1st ed.). Marshall Cavendish Education.

Toy Theater. (n.d.). *Teacher Tools*. Retrieved December 30, 2023, from https://toytheater.com/category/teacher-tools/

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1** **1. Short Review** Using of Number Cards, the teacher will: a. Ask the pupils to give the common factors of the given numbers. | 6 and 10	8 and 12	18 and 10	20 and 30 | After identifying the common factors of each pair, the teacher will ask them which of the common factors is the **greatest or largest**. b. Identify the correct symbol to compare two numbers. What mathematical symbols can we use when we compare numbers? - We can use the mathematical symbols <, >, and = when comparing numbers. | 46 and 49	245 and 205	1,400 and 1,400
989 and 9818	721 and 712	5.345 and 5.355		If number cards are not available, the teacher may prepare a PowerPoint presentation where the given numbers are written. 6 and 10 – 1, 2; GCF – 2 8 and 12 – 1, 2, 4; GCF – 4 18 and 15 – 1, 3; GCF – 3 20 and 30 – 1, 2, 5, 10; GCF – 10 To make this activity more interactive, the teacher may ask the pupils to physically demonstrate the symbols <, >, = using their bodies.
B. Establishing Lesson Purpose	**1. Lesson Purpose** In our previous lesson, we explored what equivalent fractions are and how they are generated. Furthermore, we explored how to get the factors of a given number and the common factors of a set of numbers. This lesson is a prerequisite to the next lesson we will explore. **2. Unlocking Content Area Vocabulary** In our lesson on common factors, we were able to identify which among the common factors are the greatest, hence, the Greatest Common Factor (GCF). ● The **Greatest Common Factor (GCF)** is the largest among the common factors of given numbers. It is also the greatest or largest number that can divide the given numbers without remainders.	

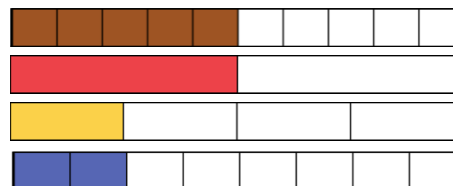|		
C. Developing and Deepening Understanding	**SUB-TOPIC 1: Reduce Fractions to Simplest Form Using GCF** **1. Explicitation** Identify which among the fractions is/are equivalent to the given fraction using models. Then, encircle the answer/s. 1. $\frac{5}{10} = \frac{4}{6}, \frac{1}{4}, \frac{1}{2}, \frac{3}{9}$ 2. $\frac{2}{8} = \frac{1}{4}, \frac{1}{8}, \frac{2}{5}, \frac{3}{6}$ To process the activity, the teacher will ask the following: For $\frac{5}{10} = \frac{1}{2}$: - Given the fraction $\frac{5}{10}$, what are the common factors of the numerator and the denominator? *The common factors of 5 and 10 are 1 and 5* - Which is the greatest among their common factors? *The greatest common factor of 5 and 10 is 5.* - If you divide both numerator and denominator by their greatest common factor, what fraction will you get? $\frac{5}{10} \div \frac{5}{5} = \frac{1}{2}$ - Can you still think of a common factor except 1 which can both divide the numerator and denominator of $\frac{1}{2}$? *None* - When do you say that a fraction is in its simplest form or lowest term? *A fraction is in its simplest form or lowest term if no other common factor can divide the numerator and denominator except 1. We call the numbers **Relatively Prime**. Numbers are relatively Prime if they have no common factor except 1.* Therefore, the lowest term or simplest form of $\frac{5}{10}$ is $\frac{1}{2}$. $\frac{5}{10}$ *and* $\frac{1}{2}$ **are Equivalent Fractions.** For $\frac{2}{8} = \frac{1}{4}$: - Given the fraction $\frac{2}{8}$, what are the common factors of the numerator and the denominator? *The common factors of 2 and 8 are 1 and 2.* - Which is the greatest among their common factors? *The greatest common factor of 2 and 8 is 2.*	The teacher will ask the pupils to identify which fraction on the right is equivalent to the given fraction on the left using models.

- If you divide both numerator and denominator by their greatest common factor, what fraction will you get? $\frac{2}{8} \div \frac{2}{2} = \frac{1}{4}$
- Can you still think of a common factor except 1 which can both divide the numerator and denominator of $\frac{1}{4}$? *None*
- When do you say that a fraction is in its simplest form or lowest term? *A fraction is in its simplest form or lowest term if no other common factor can divide the numerator and denominator except 1. We call the numbers* **Relatively Prime**. *Numbers are relatively Prime if they have no common factor except 1.*

Therefore, the lowest term or simplest form of $\frac{2}{8}$ is $\frac{1}{4}$. $\frac{2}{8}$ *and* $\frac{1}{4}$ **are equivalent Fractions.**

2. Worked Example
Reduce the given fractions in simplest form.

No.	Given	Factors of Numerator Denominator	Common Factor/s	GCF	Fraction in Simplest Form/Lowest Term (with solution)
1.	$\frac{4}{10}$	4 – 1, 2, 4 10 – 1, 2, 5, 10	1, 2	2	$\frac{4}{10} \div \frac{2}{2} = \frac{2}{5}$
2.	$\frac{15}{25}$	15 – 1, 3, 5, 15 25 – 1, 5, 25	1, 5	5	$\frac{15}{25} \div \frac{5}{5} = \frac{3}{5}$
3.	$\frac{11}{33}$	11 – 1, 11 33 – 1, 3, 11, 33	1, 11	11	$\frac{11}{33} \div \frac{11}{11} = \frac{1}{3}$
4.	$\frac{12}{9}$	12 – 1, 2, 3, 4, 6, 12 9 – 1, 3, 9	1, 3	3	$\frac{12}{9} \div \frac{3}{3} = \frac{4}{3}$
5.	$1\frac{9}{18}$	9 – 1, 3, 9 18 – 1, 2, 3, 6, 9	1, 3, 9	9	$1\frac{9}{18} \div \frac{9}{9} = 1\frac{1}{2}$

Based on the given examples, how do we reduce fractions to its simplest from or lowest term?
   a. Factor the numerator and denominator of the given fraction.
   b. Identify their common factors.
   c. Determine the **greatest** common factor.
   d. Divide the numerator and denominator by their greatest common factor.
   e. If both numerator and denominator are relatively prime, then the fraction is in its simplest form or lowest term.

Explain that aside from proper fractions, improper fractions and mixed numbers can also be reduced to their simplest form or lowest term.

The teacher will guide the pupils in identifying the steps in reducing fractions to simplest form or lowest term.

3. Lesson Activity
Complete the table below.

No.	Given	Factors of Numerator Denominator	Common Factor/s	GCF	Fraction in Simplest Form/Lowest Term (with solution)
1.	$\frac{8}{24}$				
2.	$\frac{4}{28}$				
3.	$\frac{6}{30}$				
4.	$\frac{30}{20}$				
5.	$2\frac{12}{36}$				
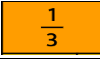
DAY 2
SUB-TOPIC 2: Compare dissimilar fractions using fraction strips and/or discs
1. Explicitation

Fraction Scavenger Hunt

The teacher will hide different pairs of color-coded fraction cards inside the classroom. Each group will find the pairs of dissimilar fractions written on colored papers. They will only look for the pairs of fractions based on the color assigned to them. Ask the pupils to list the pairs of fractions on a cartolina or manila paper and illustrate them by drawing either fraction bars/strips or fraction circle/discs. Then, each group will identify which fraction is greater. The table below may be utilized.

Group 1 White

No.	Fraction Card	Illustration	Which is greater?
1	$\frac{2}{3}$ $\frac{1}{3}$		$\frac{2}{3}$
2	$\frac{3}{4}$ $\frac{2}{4}$		$\frac{3}{4}$

Answers for the Lesson Activity:

1. $\frac{8}{24}$
Factors of the N and D:
8 – 1, 2, 4, 8
24 – 1, 2, 3, 4, 6, 8, 12, 24
Common Factors:1, 2, 4, 8
GCF: 8
Simplest form:
$$\frac{8}{24} \div \frac{8}{8} = \frac{1}{3}$$

2. $\frac{4}{28}$
Factors of N and D:
4 – 1, 2, 4
28 – 1, 2, 4, 7, 14, 28
Common Factors: 1, 2, 4
GCF: 4
Simplest Form:
$$\frac{4}{28} \div \frac{4}{4} = \frac{1}{4}$$

3. $\frac{6}{30}$
Factors of the N and D:
6 – 1, 2, 3, 6
30 – 1, 2, 3, 5, 6, 10, 15
Common Factors: 1, 2, 6
GCF: 6
Simplest Form:
$$\frac{6}{30} \div \frac{6}{6} = \frac{1}{5}$$

4. $\frac{30}{20}$
Factors of N and D:
30 – 1, 2, 3, 5, 6, 10, 15
20 – 1, 2, 4, 5, 10, 20
Common Factors: 1, 2, 5, 10
GCF: 10
Simplest Form:
$$\frac{30}{20} \div \frac{10}{10} = \frac{3}{2}$$

When comparing similar fractions, the greater the numerator, the greater the value of the given fraction. The symbols >, <, = can be used in comparing.
Based on the illustrations/models, we can say that:

- $\frac{2}{3}$ is greater than $\frac{1}{3}$ or in symbol, $\frac{2}{3} > \frac{1}{3}$
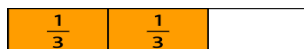- $\frac{1}{3}$ is less than $\frac{2}{3}$ or in symbol, $\frac{1}{3} < \frac{2}{3}$
- $\frac{3}{4}$ is greater than $\frac{2}{4}$ or in symbol, $\frac{3}{4} > \frac{2}{4}$
- $\frac{2}{4}$ is less than $\frac{3}{4}$ or in symbol, $\frac{2}{4} < \frac{3}{4}$

Group 2 Yellow

No.	Fraction Card	Illustration	Which is greater?
1	$\frac{1}{7}$		$\frac{1}{7}$
	$\frac{1}{9}$		
2	$\frac{3}{8}$		$\frac{3}{6}$
	$\frac{3}{6}$		

When comparing fractions with the same numerators, the fraction with smaller denominator holds the greater value.
Therefore, based on the illustrations/models, we can say that:

- $\frac{1}{7}$ is greater than $\frac{1}{9}$ or in symbol, $\frac{1}{7} > \frac{1}{9}$
- $\frac{1}{9}$ is less than $\frac{1}{7}$ or in symbol, $\frac{1}{9} < \frac{1}{7}$
- $\frac{3}{6}$ is greater than $\frac{3}{8}$ or in symbol, $\frac{3}{6} > \frac{3}{8}$
  $\frac{3}{8}$ is less than $\frac{3}{6}$ or in symbol, $\frac{3}{8} < \frac{3}{6}$

Group 3 Blue

No.	Fraction Card	Illustration	Which is greater?
1	$\frac{2}{3}$		$\frac{2}{3}$

5. $2\frac{12}{36}$
Factors of N and D:
12 – 1, 2, 3, 4, 6, 12
36 - 1, 2, 3, 4, 6, 9, 12, 18
Common Factors: 1, 2, 3, 4, 6, 12
GCF: 12
Simplest Form:
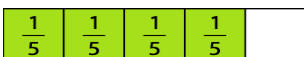$$2\frac{12}{36} \div \frac{12}{12} = 2\frac{1}{3}$$

Fraction Scavengers Hunt
The pupils will be grouped into 4 groups. Each group will be assigned a color: white – group 1; yellow – group 2; blue – group 3; red – group 4.

The pupils will be given 10 minutes to accomplish the activity. Then, a representative from each group will be asked to present the group outputs in the class. After each presentation, the teacher will ask questions to process the activity and enhance pupils' number sense. **Take note that comparing similar fractions is a review of pupils' previous lesson.**
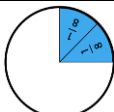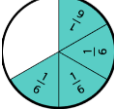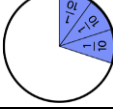
Group 1
- What kind of fractions are the given pairs?
  - Similar fractions
- Which fraction has the greater value?
  - $\frac{2}{3}$, $\frac{3}{4}$

6

2	$\frac{1}{2}$			$\frac{4}{5}$
	$\frac{3}{4}$			
	$\frac{4}{5}$			

Based on the illustrations/models, we can say that:
- $\frac{2}{3}$ is greater than $\frac{1}{2}$ or in symbol, $\frac{2}{3} > \frac{1}{2}$
- $\frac{1}{2}$ is less than $\frac{2}{3}$ or in symbol, $\frac{1}{2} < \frac{2}{3}$
- $\frac{4}{5}$ is greater than $\frac{3}{4}$ or in symbol, $\frac{4}{5} > \frac{3}{4}$
- $\frac{3}{4}$ is less than $\frac{4}{5}$ or in symbol, $\frac{3}{4} < \frac{4}{5}$

Group 4 Red

No.	Fraction Card	Illustration	Which is greater?
1	$\frac{2}{8}$		$\frac{1}{3}$
	$\frac{1}{3}$		
2	$\frac{4}{6}$		$\frac{4}{6}$
	$\frac{3}{10}$		

Based on the illustrations/models, we can say that:
- $\frac{1}{3}$ is greater than $\frac{2}{8}$ or in symbol, $\frac{1}{3} > \frac{2}{8}$
- $\frac{2}{8}$ is less than $\frac{1}{3}$ or in symbol, $\frac{2}{8} < \frac{1}{3}$
- $\frac{4}{6}$ is greater than $\frac{3}{10}$ or in symbol, $\frac{4}{6} > \frac{3}{10}$

- Which fraction has the smaller value?
  - $\frac{1}{3}$, $\frac{2}{4}$
- Based on your previous lesson, how do you compare similar fractions?
  - When comparing similar fractions, the greater the numerator, the greater the value of the fraction.
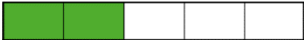- What symbols are used to compare fractions?
  - >, <, =
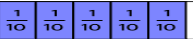
Group 2
- What kind of fractions are the given pairs?
  - Dissimilar fractions
- What have you noticed with the numerators of each pair of dissimilar fractions?
  - same numerators
- When the numerators of are the same, which fraction has the greater value?
  - Fraction with smaller denominator
- Therefore, which fraction has the greater value?
  - $\frac{1}{7}$, $\frac{3}{6}$
- Which fraction has the smaller value?
  - $\frac{1}{9}$, $\frac{3}{8}$

- $\frac{3}{10}$ is less than $\frac{4}{6}$ or in symbol, $\frac{3}{10} < \frac{4}{6}$

The use of visual representation helps us compare fractions and identify which fraction has a greater value or smaller value.

2. Worked Example

Name the fractions illustrated by each given. Then, compare using symbols: >, <, =.

a.

b.

c.

d.

e.

3. Lesson Activity

Fraction Dice Game

Compare the fractions using symbols: >, <, =. For visual representation, fractions strips/bars or fraction circles shall be utilized.

SCORING SHEET

Round	Player 1	Comparison Symbol	Player 2
1	$\frac{4}{6}$	>	$\frac{1}{2}$
2	$\frac{2}{4}$	=	$\frac{3}{6}$
3	$\frac{2}{5}$	<	$\frac{4}{6}$
4	$\frac{1}{4}$	<	$\frac{1}{3}$
5	$\frac{3}{3}$	>	$\frac{2}{5}$

Group 3
- What kind of fractions are the given pairs?
    - Dissimilar fractions
- Which fraction has the greater value?
    - $\frac{2}{3}$, $\frac{4}{5}$
- Which fraction has the smaller value?
    - $\frac{1}{2}$, $\frac{3}{4}$

Group 4
- What kind of fractions are the given pairs?
    - Dissimilar fractions
- Which fraction has the greater value?
    - $\frac{1}{3}$, $\frac{4}{6}$
- Which fraction has the smaller value?
    - $\frac{2}{8}$, $\frac{3}{10}$

The pupils will be asked to show their answers on the board.

Answers in Worked Example:

a. >

b. <

c. =

d. >

e. =

See worksheet for the activity which students will accomplish. The class will be grouped into 4 groups. Two groups will be

SUB-TOPIC 3: Compare dissimilar fractions
1. **Explicitation**
   Ask the pupils to model the word problem using **paper folding and coloring**.

   > Theon and Rapha bought the same chocolate cakes at the Mathatag Bakeshop. Theon sliced his cake into eight equal parts and ate two slices, while Rapha sliced his cake into four and ate two slices. Who ate a larger portion of their cakes?

   Theon sliced his cake into eight and ate two slices:

   Rapha sliced his cake into four and ate 2 slices:
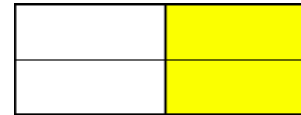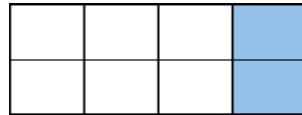
   The teacher will ask the following questions:
   1. What fractions represent the portions eaten by Rapha and Theon?
      Answer: Theon: $\frac{2}{8}$ and Rapha: $\frac{2}{4}$
   2. Based on the models, who ate a larger portion of the cake?
      Answer: Rapha ate a larger portion of the cake. This means that $\frac{2}{8}$ *is less than* $\frac{2}{4}$ *or* $\frac{2}{8} < \frac{2}{4}$
   3. What have you noticed with their numerators and denominators?
      Answer: They have the same numerators but different denominators.
   4. Based on our previous lesson, how do you compare dissimilar fractions with the same numerators?
      Answer: The smaller denominator has the greater value when comparing dissimilar fractions with the same numerators.

2. **Worked Example**
   Aside from the use of visual representation, dissimilar fractions can be compared using different strategies. Let us do them 1 by 1, using the same given: $\frac{2}{8}$ *and* $\frac{2}{4}$

provided a set of fraction strips each. The rest will be given a set of fraction circles. The sets of fraction strips and circles used in modelling dissimilar fractions may be re-used in this activity.

Anticipate that each group will have different results written on their score sheets. Hence, **answers may vary**.

A representative from each group will show and explain the answers in the class.

The teacher may reiterate that the smaller denominator has the greater value when comparing dissimilar fractions with the same numerators.

Strategy 1:

Finding Equivalent Fractions of the Given with the same Denominators

$\frac{2}{8}$

$\frac{2}{4}$
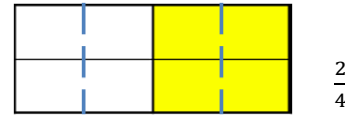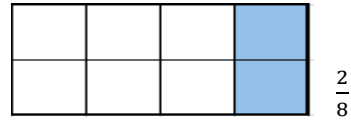
$$\frac{2}{4} x \frac{2}{2} = \frac{4}{8} \quad \text{which means that } \frac{2}{4} = \frac{4}{8}$$

Since $\frac{4}{8}$ *has the same denominators with the given,* $\frac{2}{8}$*, we can say that* $\frac{2}{8} < \frac{4}{8}$ *, hence* $\frac{2}{8} < \frac{2}{4}$.

The teacher may give other equivalent fractions of the given, with the same denominators.

$$\frac{2}{8} = \frac{4}{16} = \frac{6}{24} \qquad \frac{2}{4} = \frac{4}{8} = \frac{6}{12} = \frac{8}{16} = \frac{10}{20} = \frac{12}{24}$$

$$\frac{2}{8} < \frac{4}{8}; \qquad \frac{4}{16} < \frac{8}{16}; \qquad \frac{6}{24} < \frac{12}{24}$$

It is evident from these examples that we can generate several equivalent fractions with the same denominators that will give the same results when comparing fractions.

After getting the equivalent fractions of the given with the same denominators, what have you noticed with the kinds of fractions they will be?

- Getting the equivalent fractions of the given with the same denominators is the same as **changing dissimilar fractions to similar fractions** without changing the given fractions' values.

After changing dissimilar fractions to similar fractions, how do you compare?

- When the fractions are similar, simply compare their numerators. The bigger the numerator, the greater its value.

Strategy 2:

Classifying Fractions into Less than ½, Equal to ½, and Greater than ½

Using illustrations/models, it is easier to identify if a fraction is either less than ½, Equal to ½, or Greater than ½. However, without using visual representations, how can we classify the fractions? Let us look at the following:

Strategies 1 and 2 enhance pupils' conceptual understanding of comparing dissimilar fractions, while Strategy 3 focuses on procedural knowledge. Pupils must understand Strategies 1 and 2 before using Strategy 3.

(Models with broken lines can help the pupils visualize equivalent fractions of the given, with the same denominators.)

The teacher may emphasize that 8 is a multiple of both denominators of the fractions $\frac{2}{8}$ *and* $\frac{2}{4}$, and 8 is the **least among their common multiples**. Should the pupils decide to go on with other multiples of both denominators, they can still generate more equivalent fractions with the same denominators.

However, explain to the pupils that employing the least common multiples to obtain equivalent fractions can simplify calculations with smaller numbers. This is specifically useful when performing fundamental operations with fractions, which will be discussed in the succeeding lessons.

$\frac{2}{8}$ $\frac{2}{4}$
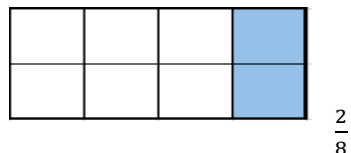
For Fraction equal to ½:
- Which is equal to ½? $\frac{2}{4}$ is equal to $\frac{1}{2}$
- What have you noticed with the numerator and denominator of a fraction equal to $\frac{1}{2}$? *The numerator is always half the denominator.*

Therefore, we can say that a fraction is equal to ½ if the numerator is half the denominator.

For Fraction less than ½:
- Which fraction is less than ½? $\frac{2}{8}$ *is less than* $\frac{1}{2}$
- What have you noticed with the numerator and denominator of a fraction less than $\frac{1}{2}$? *When a fraction is less than $\frac{1}{2}$, the numerator is noticeably less than half of the denominator. For instance, the fraction $\frac{2}{8}$, the numerator 2 is less than half of the denominator 8. This is evident as half of 8 is 4, and 2 is less than 4.*

Therefore, we can say that a fraction is less than ½ if the numerator is less than half of the denominator.
*Since $\frac{2}{8}$ *is less than* $\frac{1}{2}$ *and* $\frac{2}{4}$ *is equal to* $\frac{1}{2}$, *therefore,* $\frac{2}{8} < \frac{2}{4}$

For Fraction greater than ½:
- When a fraction is greater than $\frac{1}{2}$, the numerator is noticeably greater than half of the denominator. For instance, the fraction $\frac{5}{8}$, the numerator 5 is greater than half of the denominator 8. This is evident as half of 8 is 4, and 5 is greater than 4.

*Therefore, we can say that a fraction is greater than ½ if the numerator is more than half of the denominator.*

Since no given illustration qualifies as an example of a fraction greater than $\frac{1}{2}$, the teacher may give any example for this.

11

DAY 4

Strategy 3:

Using Cross Multiplication

In our lesson on equivalent fractions, we could determine and check whether the given fractions are equivalent by cross-multiplication. We can use the same strategy when comparing fractions. Let us try using the same examples.

$$2 \times 4 = \mathbf{8} \quad < \quad 2 \times 8 = \mathbf{16}$$
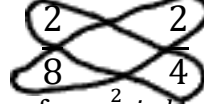
Therefore, $\frac{2}{8}$ is less than $\frac{2}{4}$.

Let us compare the following fractions using the three strategies.

1. $\frac{4}{6}$ ___ $\frac{7}{9}$ 2. $\frac{3}{5}$ ___ $\frac{2}{6}$ 3. $\frac{6}{12}$ ___ $\frac{5}{8}$
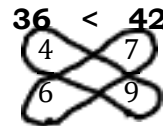
Example 1: $\frac{4}{6}$ ___ $\frac{7}{9}$

Strategy 1:

$$\frac{4}{6} = \frac{8}{12} = \frac{12}{18} \qquad \frac{7}{9} = \frac{14}{18} \qquad \frac{12}{18} < \frac{14}{18} \quad Therefore, \frac{4}{6} < \frac{7}{9}$$

Strategy 2:

$$\frac{4}{6} \ is\ greater\ than\ \frac{1}{2}, \qquad \frac{7}{9} \ is\ also\ greater\ than\ \frac{1}{2}$$

- If both fractions are greater than ½ or less than 1/2, they can be compared using either Strategy 1 or Strategy 2.
- If both fractions are equal to ½, they are equivalent fractions.

Strategy 3:

$$\mathbf{36} \quad < \quad \mathbf{42}$$

Example 2: $\frac{6}{12}$ ___ $\frac{5}{8}$

Strategy 1:

$$\frac{6}{12} = \frac{12}{24} \qquad \frac{5}{8} = \frac{10}{16} = \frac{15}{24} \qquad \frac{12}{24} < \frac{15}{24} \quad Therefore, \frac{6}{12} < \frac{5}{8}$$

Reiterate that more equivalent fractions can be generated from the given fractions.

This case must be adequately explained to the pupils to avoid confusion.

Strategy 2:

$\frac{6}{12}$ *is equal to* $\frac{1}{2}$, $\qquad$ $\frac{5}{8}$ *is greater than* $\frac{1}{2}$, *therefore,* $\frac{6}{12} < \frac{5}{8}$

Strategy 3: $\qquad$ **48** $\quad$ **<** $\quad$ **60**

$$\frac{6}{12} \bowtie \frac{5}{8}$$

3. Lesson Activity

Compare the given fractions using the symbols >, <, =. Write the correct symbol inside the box found in the 2nd column. Show your solutions using the three strategies.

No	Given Fractions			Strategy 1	Strategy 2	Strategy 3
1	$\frac{3}{4}$	☐	$\frac{1}{5}$			
2	$\frac{3}{6}$	☐	$\frac{7}{14}$			
3	$\frac{17}{20}$	☐	$\frac{9}{10}$			
4	$\frac{1}{3}$	☐	$\frac{8}{15}$			
5	$\frac{5}{12}$	☐	$\frac{1}{6}$			

Important Note:

Should time constraints arise during the discussions of lessons and the teacher deems it necessary to spend additional days to cover the subtopics, an extension may be implemented up to the 2nd day of the fourth week as deemed appropriate.

Since various equivalent fractions can be generated, explain that by reducing $\frac{6}{12}$ *to lowest term, it becomes* $\frac{1}{2}$.
Therefore, it is possible that $\frac{1}{2} = \frac{4}{8}$.
Hence, $\frac{4}{8} < \frac{5}{8}$.

This **Lesson Activity** can be given as a **group** or an **individual** activity.

Answers for the Lesson Activity:

1. $\frac{3}{4} > \frac{1}{5}$
Strategy 1:
$\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16} = \frac{15}{20}$; $\frac{1}{5} = \frac{2}{10} = \frac{3}{15} = \frac{4}{20}$;
$\frac{15}{20} > \frac{4}{20}$, *therefore,* $\frac{3}{4} > \frac{1}{5}$
Strategy 2:
$\frac{3}{4}$ *is greater than* $\frac{1}{2}$, $\frac{1}{5}$ *is less than* $\frac{1}{2}$,
therefore, $\frac{3}{4} > \frac{1}{5}$
Strategy 3: 15 $\quad$ > $\quad$ 4
$$\frac{3}{4} \bowtie \frac{1}{5}$$

2. $\frac{3}{6} = \frac{7}{14}$
Strategy 1:
$\frac{3}{6} = \frac{6}{12} = \frac{9}{18} = \frac{12}{24} = \frac{15}{30} = \frac{18}{36} = \frac{21}{42}$; $\frac{7}{14} = \frac{14}{28} = \frac{21}{42}$
$\frac{21}{42} = \frac{21}{42}$, *therefore,* $\frac{3}{6} = \frac{7}{14}$ or using lowest
term: $\frac{3}{6} = \frac{1}{2}$ *and* $\frac{7}{14} = \frac{1}{2}$; $\frac{1}{2} = \frac{1}{2}$, *therefore,* $\frac{3}{6} = \frac{7}{14}$

Strategy 2:
$\frac{3}{6}$ *is equal to* $\frac{1}{2}$, $\frac{7}{14}$ *is equal to* $\frac{1}{2}$,

		$therefore, \frac{3}{6} = \frac{7}{14}$
		Strategy 3: 42 __ = __ 42
		3. $\frac{17}{20} < \frac{9}{10}$ Strategy 1: $\frac{17}{20};\quad \frac{9}{10} = \frac{18}{20};\quad \frac{17}{20} < \frac{18}{20}, therefore, \frac{17}{20} < \frac{9}{10}$ Strategy 2: $\frac{17}{20}$ is greater than $\frac{1}{2}$, $\frac{9}{10}$ is greater than $\frac{1}{2}$, $*$ Stategy 1 or Strategy 2 can be used. Strategy 3:170__ < __180
		4. $\frac{1}{3} < \frac{8}{15}$ Strategy 1: $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15};\quad \frac{8}{15};$ $\frac{5}{15} < \frac{8}{15}, therefore, \frac{1}{3} < \frac{8}{15}$ Strategy 2: $\frac{1}{3}$ is less than $\frac{1}{2}$, $\frac{8}{15}$ is greater than $\frac{1}{2}$, $therefore, \frac{1}{3} < \frac{8}{15}$ Strategy 3: 15 __ < __ 24
		5. $\frac{5}{12} > \frac{1}{6}$ Strategy 1: $\frac{5}{12};\quad \frac{1}{6} = \frac{2}{12}; \frac{5}{12} > \frac{2}{12}, therefore, \frac{5}{12} > \frac{1}{6}$ Strategy 2: $\frac{5}{12}$ is less than $\frac{1}{2}$, $\frac{1}{6}$ is less than $\frac{1}{2}$, $*$ Stategy 1 or Strategy 2 can be used. Strategy 3: 30 __ > __12

D. Making Generalizations	**1. Learners' Takeaways** The teacher will guide the pupils in completing this table.				Guide the students in realizing that lesson on comparing is invaluable in our daily lives because we usually experience situations that require us to do comparison such as comparing sizes, distance, length and width, and prices, among others. This likewise aids us to arrive at a more informed decision.

Key Ideas/Concepts	_What I've Learned from the Discussion_	_Concepts that are Somewhat Confusing_	_Concepts I Totally Don't Understand_
Reducing fractions to simplest form			
Comparing fractions using models			
Comparing fractions using different strategies			

2. Reflection on Learning
On the importance of this lesson to one's daily life
  a. How can the lesson on reducing fractions to simplest form and comparing dissimilar fractions be useful in your daily life?
  b. Cite an instance when understanding how to compare would be helpful.

On the conduct of group activities
  a. When doing the activities, dissimilar fractions' scavenger hunt and fraction dice game, what did you do to ensure that tasks were fully completed and finished ahead of time?
  b. Why is it important for each member of the group to have a contribution during the activities?
  c. What values have you gained from these activities?

Notes (right column continued):
- Working together, staying focused, and following instructions helped in completing the tasks.
- It is very important that each member of the group is given **equal opportunities** to share his/her ideas and participate during the activities.
- When each member contributes, tasks are accomplished more efficiently and effectively.

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS

A. Evaluating Learning	**DAY 5**
	1. Formative Assessment
	  I. Identify the GCF of the numerator and denominator of each fraction. Then, express each Fraction in its Simplest Form/Lowest Term.
	    1. $\frac{15}{45}$ GCF: Simplest Form:
	    2. $\frac{21}{49}$ GCF: Simplest Form:
		I.
		1. $\frac{15}{45}$ $GCF: 15$ $Simplest\ Form: \frac{1}{3}$
		2. $\frac{21}{49}$ $GCF: 7$ $Simplest\ Form: \frac{3}{7}$
		3. $\frac{16}{40}$ $GCF: 8$ $Simplest\ Form: \frac{2}{5}$
		4. $\frac{26}{12}$ $GCF: 2$ $Simplest\ Form: \frac{13}{6}$

3. $\frac{16}{40}$ GCF: Simplest Form:

4. $\frac{26}{12}$ GCF: Simplest Form:

5. $4\frac{9}{27}$ GCF: Simplest Form:

II. Compare the following fractions using the symbols <, >, =. Illustrate them using any of these models: (a) fraction disks/circles, (b) fractions strips/bars, and number lines. Then, show another solution using **any of the three strategies** discussed.

	Illustration	Another Solution

1. $\frac{1}{4}$ _____ $\frac{3}{6}$

2. $\frac{8}{15}$ _____ $\frac{2}{5}$

3. $\frac{6}{7}$ _____ $\frac{12}{14}$

4. $\frac{5}{3}$ _____ $\frac{5}{2}$

5. $\frac{3}{4}$ _____ $\frac{5}{12}$

2. Homework (Optional)

5. $4\frac{9}{27}$ *GCF*: 9 *Simplest Form*: $4\frac{1}{3}$

II.

1. $6 < 12$; $\frac{1}{4}$ ⤬ $\frac{3}{6}$; <

2. $40 > 30$; $\frac{8}{15}$ ⤬ $\frac{2}{5}$; >

3. $84 = 84$; $\frac{6}{7}$ ⤬ $\frac{12}{14}$; =

4. $10 < 15$; $\frac{5}{3}$ ⤬ $\frac{5}{2}$; <

5. $36 > 20$; $\frac{3}{4}$ ⤬ $\frac{5}{12}$; >
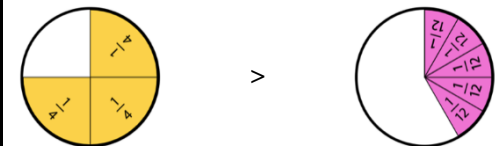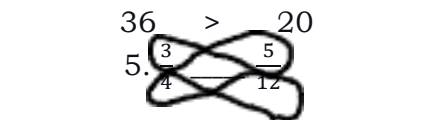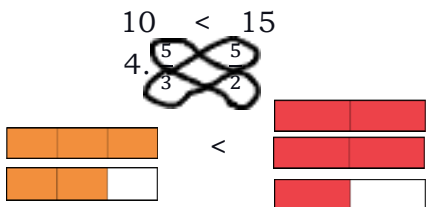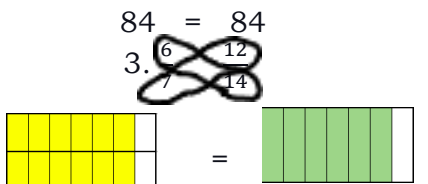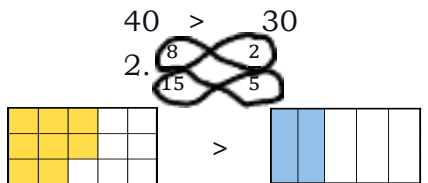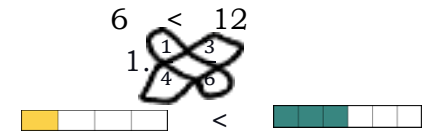
The pupils may use any of the 3 strategies discussed

| 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 used, learner engagement, and other related stuff.

Teachers may also suggest ways to improve the different activities explored/lesson exemplar. |
|---|---|---|---|---|
| | strategies explored | | | |
| | materials used | | | |
| | learner engagement/ interaction | | | |
| | others | | | |
| C. Teacher's Reflection | Reflection guide or prompt can be on:
• principles behind the teaching
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

• students
What roles did my students play in my lesson?
What did my students learn? How did they learn?

• ways forward
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. |