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Lesson Exemplar for Mathematics

Quarter 3
Lesson
2

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Lesson Exemplar for Mathematics Grade 4
Quarter 3: Lesson 2 (Week 2)
SY 2024-2025

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MATHEMATICS / QUARTER 3 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	*The learner should have knowledge and understanding of …* 1. equivalent fractions 2. factors and multiples up to 100
B. Performance Standards	*By the end of the quarter, the learners are able to …* ● find factors and multiples of numbers up to 100
C. Learning Competencies and Objectives	1. Identify the multiples of given numbers up to 100. 2. Use multiples in finding equivalent fractions. 3. Find all the factors of a given number up to 100.
D. Content	Identifying multiples of given numbers up to 100 Using multiples of a given number up to 100 in determining equivalent fractions Factoring a given number up to 100
E. Integration	Concept of Equality and Fairness

II. LEARNING RESOURCES

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Sta. Ana College (n.d.). *GCF and LCM Word Problems*. https://sac.edu/StudentServices/EOPS/Documents/Math%20Study%20Guide%203%20-%20GCF%20and%20LCM.pdf

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

Wee, J.S., Bibi, B.M., Caraecle, J.J., Reyes, D.E., Atilano, C.A., Anega, S. A. (2020). *New Century Mathematics 3 Series*. The Anvil Education Publishing.

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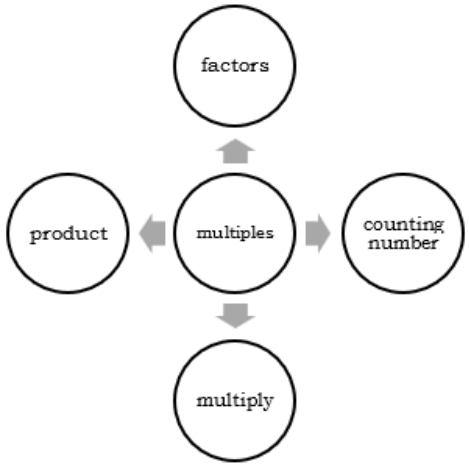
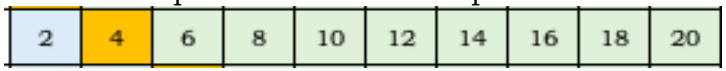
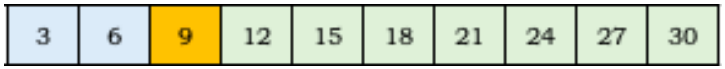
III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1** **1. Short Review** *Drill.* The teacher will give drills on Continuous Multiplication and Division of Whole Numbers. What is 4 x 5? 20 What is 20÷2? 10 What is 10 x 7? 70 What is 70÷5?14 What is 14 x 3? 42 and so on…. *Using Colored Multiplication Table* Give the missing numbers to complete the multiplication table.	The teacher gives a multiplication sentence to a pupil, who then provides an answer. Depending on the pupil's response, the teacher provides a division sentence, continuing this alternating pattern. Options for teachers: • Availability of Laptop and TV/DLP The teacher may flash the multiplication table if there is an available laptop and TV/DLP. Volunteers will be called to give the missing number. • Use of Manila paper/Carolina/Cardboard Teacher may draw the multiplication table to be posted on the board. The teacher must ensure that all pupils including those seated at the back can see the numbers in the multiplication table. Emphasize that aside from its primary use for multiplication, the multiplication table can also be a valuable tool for learning division. For instance, consider the example 56 ÷ 7 = 8.

	1	2	3	4	5	6	7	8	9	10
1	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
2		4	*6*	*8*	*10*	*12*	*14*	*16*	*18*	*20*
3		**6**	9	12	*15*	*18*	*21*	*24*	*27*	*30*
4	**4**		**12**	16	*20*	*24*	*28*	*32*	*36*	*40*
5	**5**		**15**		25	*30*	*35*	*40*	*45*	*50*
6	**6**	**12**		**24**		36	*42*	*48*	*54*	*60*
7		**14**	**21**		**35**		49	*56*	*63*	*70*
8	**8**		**24**				**56**	64	*72*	*80*
9	**9**	**18**			**45**		**63**	**72**	81	*90*
10	**10**	**20**		**40**		**60**		**80**		100

	The teacher will ask the following: 1. Closely look at the number in the green boxes (italic) and the blue boxes (bold). What have you noticed? - Same numbers 2. What have you noticed with the numbers in the orange box (with bigger font size)? - They are products of numbers multiplied by themselves. 3. What other patterns do you see? **2. Feedback (Optional)**	**Note:** You may use the same multiplication table during the discussion on multiples. Mastering multiplication and division is essential as this skill serves the foundation for various math applications. Thus, the multiplication table teaches us multiplication and is equally valuable for learning division.
B. Establishing Lesson Purpose	**1. Lesson Purpose** Our previous sessions explored equivalent fractions through visual models such as fraction strips/bars, fraction circles/disks, and number lines. Aside from these models, there are other methods for generating equivalent fractions and ascertaining their equivalence. However, before this, we must discuss another important lesson that is a prerequisite to understanding equivalent fractions without relying on visual models. ● Have you heard the word, "multiples"? ● What is the first word that comes to your mind when you hear "multiples"? Do the same technique in unlocking the word, "factors."  **2. Unlocking Content Area Vocabulary** ● A **multiple** is a number that we get when a number is multiplied by a natural or counting number. ● A **factor** of a number is a divisor of the given number that divides it completely, without leaving any remainder.	The teacher may use concept mapping to organize the words elicited from the pupils. From the answers of pupils, unlock the word "multiple" and "factors".

C. Developing and Deepening Understanding	**SUB-TOPIC 1: IDENTIFYING THE MULTIPLES OF GIVEN NUMBERS UP TO 100** **1. Explicitation** Encircle the 1st 10 multiples of 2 in the multiplication table.  Encircle the 1st 10 multiples of 3 in the multiplication table.  To process, 2 x 1 = 2; 2 x 2 = 4; 2 x 3 = 6; 2 x 4 = 8, …, 2 x 10 = 20, therefore, 2, 4, 6, 8, …, 20 are multiples of 2. ● 2, 4, 6, 8, …, 20 are the products or results when 2 is multiplied by numbers or factors 1, 2, 3, 4, …,10. ● We can also notice that 2 is a multiple of itself. ● Also, you can generate the multiples of a number through skip counting. **Common Multiples** We can find **some** of the **common multiples of 2 and 3 by listing them.** Multiples of 2 are 2, 4, **6,** 8, 10, **12**, 14, 16, **18,** 20, 22, **24**, 26, 28, **30** Multiples of 3 are 3, **6**, 9, **12**, 15, **18**, 21, **24**, 27, **30** The common multiples of 2 and 3, up to 30 are **6, 12, 18, 24, 30.** Based on the examples, how do we get the common multiples of given numbers? ● List the multiples of a given number by multiplying the number by another number or skip count. ● Identify the common multiple from the list. **2. Worked Example** Let us get the common multiples of the following numbers **up to 100 only**. a. What are the common multiples of 3 and 9? ● Multiples of 3 – 3, 6, **9**, 12, 15, **18**, 21, 24, **27**, 30, 33**, 36**, 39, 42, **45**, 48, 51, **54**, 57, 60, **63**, 66, 69, **72**, 75, 78, **81**, 84, 87, **90**, 93, 96, **99** ● Multiples of 9 – **9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99** The common multiples of 3 and 9 are **9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99.**	The teacher will use the same multiplication table used during the short review. Ask the pupils to encircle the multiples of a given number, either vertically or horizontally. Do this technique in processing other examples. 3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 3 x 4 = 12 and so on…. 3, 6, 9, 12, …,30 are multiples of 3. The teacher will ask the pupils to *give the multiples of different numbers found in the multiplication table.* You may ask the pupils to give the multiples of a given number up to 100 verbally or to be written on board. Emphasize that **common multiples extend infinitely**, but our focus is specifically on multiples up to 100 for this lesson. Elicit the answers from the pupils. Explain that since 9 is a multiple of 3, all multiples of 9 are also multiples of 3.

	b. What are the common multiples of 6, 5, 10? ● Multiples of 6 – 6, 12, 18, 24, **30**, 36, 42, 48, 54, **60**, 66, 72, 78, 84, **90**, 96 ● Multiples of 5 – 5, 10, 15, 20, 25, **30**, 35, 40, 45, 50, 55, **60,** 65, 70, 75, 80, 85, **90**, 95, 100 ● Multiples of 10 – 10, 20, **30**, 40, 50, **60**, 70, 80, **90**, 100 The common multiples of 6, 5, and 10 are **30, 60, and 90**. c. What are the common multiples of 10, 20, 25? ● Multiples of 10 – 10, 20, 30, 40, 50, 60, 70, 80, 90, **100** ● Multiples of 20 – 20, 40, 50, 60, 80, **100** ● Multiples of 25 – 25, 50, 75, **100** The common multiples of 10, 20, 25 is **100.** d. What are the common multiples of 4, 9, and 12? ● Multiples of 4 – 4, 8, 12, 16, 20, 24, 28, 32, **36**, 40, 44, 48, 52, 56, 60, 64, 68, **72**, 76, 80, 84, 88, 92, 96, 100 ● Multiples of 9 – 9, 18, 27, **36,** 45, 54, 63, **72**, 81, 90, 99 ● Multiples of 12 – 12, 24, **36**, 48, 60, **72**, 84, 96 The common multiples of 4, 9, and 12 are **36 and 72**. To apply our lesson on multiples, let us analyze and solve this sample word problem: Kelvin installed Christmas lights in front of his house for decoration during the holiday season. These Christmas lights consist of two colors: white and blue. The white lights flash every 3 minutes, while the blue lights flash every 4 minutes. Every after how many minutes do they flash together? At 7:30 PM, all white and blue lights flash together. What time will this happen again? To answer this, we will get the **least** common multiples of 3 and 4. The white lights flash every 3 minutes while blue lights flash every 4 minutes. ● Multiples of 3 are 3, 6, 9, **12** ● Multiples of 4 are 4, 8, **12** Therefore, the lights will flash together after every **12** minutes and they will flash again at 7:42 PM.	The teacher may initially introduce the least common multiple in this part to give the pupils idea. The least common multiple is the smallest common multiple of two or more numbers.

DAY 2

3. Lesson Activity

I. List the multiples of each of the given numbers up to 100. Then identify the common multiples of each set.

No.	Given Number	Multiples	Common Multiple/s
	5		
	7		
	15		
	25		
	4		
	6		
	8		
	6		
	9		
	18		
	24		
	12		

II. Analyze and solve the given word problem. Show the necessary solution.

What is the shortest height at which three stacks of boxes, 9 inches, 12 inches, and 18 inches, will be equal?

DAY 3

SUB-TOPIC 2: USING MULTIPLES OF A GIVEN NUMBER UP TO 100 IN DETERMINING EQUIVALENT FRACTIONS

1. Explicitation

Since we already discussed the multiples of given numbers, let us use what we have learned from this lesson to continue learning about equivalent fractions. It can be recalled that before the lesson on multiples, we discussed what equivalent fractions are and how to determine if the given fractions are equivalent using models. Let's have one more example on this. The teacher will show the following **fraction cards** and ask the pupils to illustrate them on the board through fraction bars.

Answer for Lesson Activity:

I.

1. Multiples of 5 and 7:
   - Multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100
   - Multiples of 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98
   - *Common Multiples: 35, 70*

2. Multiples of 15 and 25:
   - Multiples of 15: 15, 30, 45, 60, 75, 90
   - Multiples of 25: 25, 50, 75, 100
   - *Common Multiples: 75*

3.Multiples of 4, 6, and 8:
   - Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100
   - Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
   - Multiples of 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96
   - Common Multiples: 24, 48, 72

4.Multiples of 6 and 9:
   - Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
   - Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99

The models provide clear illustrations of equivalent fractions. Although with different numerators and denominators, the fractions have the same amount or quantity of shaded parts.

Given the same examples, let us identify if fractions are equivalent **without using models but by applying our lesson on multiples**.

$\frac{1}{2}x\frac{2}{2}=\frac{2}{4}$ $\frac{1}{2}x\frac{3}{3}=\frac{3}{6}$ $\frac{1}{2}x\frac{4}{4}=\frac{4}{8}$ $\frac{1}{2}x\frac{5}{5}=\frac{5}{10}$

What have you noticed with the given set of fractions?

- When you **multiply both numerator and denominator by the same number**, you can generate **fractions equivalent** to the given fraction.

  $\frac{1}{2}x\frac{2}{2}=\frac{2}{4}$ $\frac{1}{2}x\frac{3}{3}=\frac{3}{6}$ $\frac{1}{2}x\frac{4}{4}=\frac{4}{8}$ $\frac{1}{2}x\frac{5}{5}=\frac{5}{10}$

  Therefore, $\frac{1}{2}=\frac{2}{4}=\frac{3}{6}=\frac{4}{8}=\frac{5}{10}$
- When you multiply both numerator and denominator by the same number, you are as if multiplying them by a fraction equal to 1.

  $\frac{2}{2}=1$ $\frac{3}{3}=1$ $\frac{4}{4}=1$ $\frac{5}{5}=1$
- Remember that any number multiplied by one is the number itself.

In our discussion of multiples, it was highlighted that multiples of given numbers extend infinitely. Ergo, following this principle, **we can generate an infinite number of equivalent fractions with any given fraction**.

2. Worked Example

Give the 1st five (5) equivalent fractions of the following:

$a.\ \frac{3}{4}$ $b.\frac{5}{7}$ $c.\frac{1}{8}$ $d.\frac{4}{9}$ $e.\frac{7}{6}$

- Common Multiples: 18, 36, 54,72, 90

5.Multiples of 18, 24, and 12:

- Multiples of 18: 18, 36, 54, 72, 90
- Multiples of 24: 24, 48, 72, 96
- Multiples of 12: 12, 24, 36, 48, 60, 72, 84, 96
- Common Multiples: 72

II.

- Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99
- Multiples of 12: 12, 24, 36, 48, 60, 72, 84, 96
- Multiples of 18: 18, 36, 54, 72, 90
- Least Common Multiple: 36

The teacher may add that multiplying the numerator and denominator by the same number is similar to obtaining their multiples.

	Solutions: *a.* $\frac{3}{4}\ x\ \frac{2}{2}=\frac{6}{8}$ $\frac{3}{4}\ x\ \frac{3}{3}=\frac{9}{12}$ $\frac{3}{4}\ x\ \frac{4}{4}=\frac{12}{16}$ $\frac{3}{4}\ x\ \frac{5}{5}=\frac{15}{20}$ $\frac{3}{4}\ x\ \frac{6}{6}=\frac{18}{24}$ Therefore, $\frac{3}{4}=\frac{6}{8}=\frac{9}{12}=\frac{12}{16}=\frac{15}{20}=\frac{18}{24}$ *b.* $\frac{5}{7}\ x\ \frac{2}{2}=\frac{10}{14}$ $\frac{5}{7}\ x\ \frac{3}{3}=\frac{15}{21}$ $\frac{5}{7}\ x\ \frac{4}{4}=\frac{20}{28}$ $\frac{5}{7}\ x\ \frac{5}{5}=\frac{25}{35}$ $\frac{5}{7}\ x\ \frac{6}{6}=\frac{30}{42}$ Therefore, $\frac{5}{7}=\frac{10}{14}=\frac{15}{21}=\frac{20}{28}=\frac{25}{35}=\frac{30}{42}$ *c.* $\frac{1}{8}\ x\ \frac{2}{2}=\frac{2}{16}$ $\frac{1}{8}\ x\ \frac{3}{3}=\frac{3}{24}$ $\frac{1}{8}\ x\ \frac{4}{4}=\frac{4}{32}$ $\frac{1}{8}\ x\ \frac{5}{5}=\frac{5}{40}$ $\frac{1}{8}\ x\ \frac{6}{6}=\frac{6}{48}$ Therefore, $\frac{1}{8}=\frac{2}{16}=\frac{3}{24}=\frac{4}{32}=\frac{5}{40}=\frac{6}{48}$ *d.* $\frac{4}{9}\ x\ \frac{2}{2}=\frac{8}{18}$ $\frac{4}{9}\ x\ \frac{3}{3}=\frac{12}{27}$ $\frac{4}{9}\ x\ \frac{4}{4}=\frac{16}{36}$ $\frac{4}{9}\ x\ \frac{5}{5}=\frac{20}{45}$ $\frac{4}{9}\ x\ \frac{6}{6}=\frac{24}{54}$ Therefore $\frac{4}{9}=\frac{8}{18}=\frac{12}{27}=\frac{16}{36}=\frac{20}{45}=\frac{24}{54}$ *e.* $\frac{7}{6}\ x\ \frac{2}{2}=\frac{14}{12}$ $\frac{7}{6}\ x\ \frac{3}{3}=\frac{21}{18}$ $\frac{7}{6}\ x\ \frac{4}{4}=\frac{28}{24}$ $\frac{7}{6}\ x\ \frac{5}{5}=\frac{35}{30}$ $\frac{7}{6}\ x\ \frac{6}{6}=\frac{42}{36}$ Therefore, $\frac{7}{6}=\frac{14}{12}=\frac{21}{18}=\frac{28}{24}=\frac{35}{30}=\frac{42}{36}$	The teacher will ask the pupils to show the solutions on the board.
	Again, how do we generate fractions equivalent to a given fraction? To generate equivalent fractions, multiply both the numerator and denominator of a given fraction by the same number.	
	Equivalent or Not Equivalent Aside from generating equivalent fractions, **we can also determine or check if the given fractions are equivalent without using models or visual representations**.	Reiterate that we can generate more equivalent fractions by continuing to multiply the given fractions with various numbers. This process can extend infinitely.

	Find the missing number to make the fractions equivalent. $a.\ \frac{2}{5} = \frac{}{15}$ (x 3) $\quad b.\frac{3}{2} = \frac{15}{}$ (x 5) Therefore, a. $\frac{2}{5} = \frac{6}{15}$ (x 3) $\quad b.\ \frac{3}{2} = \frac{15}{10}$ (x 5). To check if these fractions are equivalent, we can use **cross multiplication**. $\frac{2}{5} = \frac{6}{15}$ (**30** **30**) $\quad \frac{3}{2} = \frac{15}{10}$ (**30** **30**) What have you noticed? If, after doing cross multiplication, the products are equal, the fractions are equivalent. Check if the pair of fractions are equivalent. a. $\frac{2}{3}$ *and* $\frac{8}{12}$ Solution: $\frac{2}{3} = \frac{8}{12}$ (24 24) Equivalent b. $\frac{4}{3}$ *and* $\frac{12}{9}$ Solution: $\frac{4}{3} = \frac{12}{9}$ (36 36) Equivalent c. $\frac{3}{8}$ *and* $\frac{9}{32}$ Solution: $\frac{3}{8} = \frac{9}{32}$ (96 72) Not Equivalent Again, we can use cross multiplication to determine or check if fractions are equivalent. Based on the examples, how to perform cross multiplication in order to determine if the fractions are equivalent? 1. Multiply the numerator of the 1st fraction by the denominator of the 2nd fraction. 2. Multiply the denominator of the 1st fraction by the numerator of the 2nd fraction. 3. If the products are the same, the fractions are equivalent.	Reiterate also that in so doing, the numerator and denominator should be multiplied by the same number to generate a fraction equivalent to the given. Explain to the pupils that steps 1 and 2 can be interchanged.

3. Lesson Activity

Answer the following.

I. Give any five fractions equivalent to the given fraction. Limit your answer to fractions whose numerator and denominator are up to 100 only.

1. $\frac{3}{5} =$
2. $\frac{7}{9} =$
3. $\frac{11}{8} =$
4. $\frac{6}{7} =$
5. $\frac{1}{12} =$

II. Using cross multiplication, check whether the fractions are equivalent or not. Write your answer in the blank after the given.

1. $\frac{1}{5} = \frac{4}{24}$ _____
2. $\frac{2}{7} = \frac{16}{56}$ _____
3. $\frac{9}{10} = \frac{63}{70}$ _____
4. $\frac{18}{15} = \frac{3}{2}$ _____
5. $\frac{6}{13} = \frac{18}{39}$ _____

DAY 4

SUB-TOPIC 3: FACTORING A GIVEN NUMBER UP TO 100

1. Explicitation

The teacher may utilize the multiplication table to introduce the factors of given numbers. The teacher will ask the pupils to encircle all the numbers 20 in the multiplication table.

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	**20**
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	**20**	24	28	32	36	40
5	5	10	15	**20**	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	**20**	30	40	50	60	70	80	90	100

The teacher will ask the following:

1. What numbers are multiplied to get the product, 20?
   Answer: 20 and 1, 5 and 4, 10 and 2,
2. What do you call the numbers being multiplied to get the product?

Answers for the Lesson Activity:

I.

1) $\frac{3}{5} = \frac{6}{10} = \frac{9}{15} = \frac{12}{20} = \frac{15}{25} = \frac{18}{30}$

2) $\frac{7}{9} = \frac{14}{18} = \frac{21}{27} = \frac{28}{36} = \frac{35}{45} = \frac{42}{54}$

3) $\frac{11}{8} = \frac{22}{16} = \frac{33}{24} = \frac{44}{32} = \frac{55}{40} = \frac{66}{48}$

4) $\frac{6}{7} = \frac{12}{14} = \frac{18}{21} = \frac{24}{28} = \frac{30}{35} = \frac{36}{42}$

5) $\frac{1}{12} = \frac{2}{24} = \frac{3}{36} = \frac{4}{48} = \frac{5}{60} = \frac{6}{72}$

(More equivalent fractions can still be generated from the give whose numerators and denominators are up to 100.)

II.

1. Not Equivalent
2. Equivalent
3. Equivalent
4. Not Equivalent
5. Equivalent

The teacher will explain this to the pupils.

	Answer: The numbers being multiplied to get the product are called **factors**. The teacher may show this on the board: 20 x 1 = 20 10 x 2 = 20 5 x 4 = 20 Factors Product Factors Product Factors Product The factors of 20 are 20, 10, 5, 4, 2, 1 ● Since the factors of 20 are 20, 10, 5, 4, 2, and 1, this means that when you divide 20 by each factor, the quotient will not have a remainder. Hence, a factor of a given number will divide that given number precisely without a remainder. **2. Worked Example** Factor the given numbers. a. 6 6 x 1 = 6 3 x 2 = 6 The factors of 6 are 1, 2, 3, 6 b. 8 8 x 1 = 8 4 x 2 = 8 The factors of 8 are 1, 2, 4, 8 What are the common factors of 6 and 8? Factors of 6: **1**, **2,** 3, 6 Factors of 8: **1**, **2,** 4, 8 Common Factors of 6 and 8: **1, 2** Which of the common factors of 6 and 8 is the **greates**t? 2 a. 12 12 x 1 = 12 6 x 2 = 12 4 x 3 = 12 The factors of 12 are 1, 2, 4, 3, 6, 12 b. 18 18 x 1 = 18 9 x 2 = 18 6 x 3 = 18 The factors of 18 are 1, 2, 3, 6, 9, 18 What are the common factors of 12 and 18? Factors of 12: **1**, **2**, **3,** 4, **6,** 12 Factors of 18: **1**, **2**, **3, 6,** 9, 18 Common Factors of 12 and 18: **1, 2, 3, 6** Which of the common factors of 12 and 18 is the **greates**t? 6	The teacher may ask the pupils what property of multiplication is demonstrated by this example, 10x2 = 2x10 (Recall Commutative Property of Multiplication) Remind students that due to the commutative property of multiplication, the factors of a given number will only be listed once. In this part, the teacher may initially introduce the concept of **greatest common factor**.

	c. 24 24 x 1 = 24 12 x 2 = 24 8 x 3 = 24 6 x 4 = 24 The factors of 24 are 1, 2, 3, 4, 6, 8, 12, 24 d. 30 30 x 1 = 30 15 x 2 = 30 10 x 3 = 30 5 x 6 = 30 The factors of 30 are 1, 2, 3, 5, 6, 10, 15, 30 e. 36 36 x 1 = 36 18 x 2 = 36 12 x 3 = 36 9 x 4 = 36 6 x 6 = 36 The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, 36 What are the common factors of 24, 30, and 36? Factors of 24: **1**, **2**, **3**, **6**, 4, 8, 12, 24 Factors of 30: **1**, **2**, **3**, 5, **6**,10, 15, 30 Factors of 36: **1**, **2**, **3**, 4, **6,** 9, 12, 18, 36 Common Factors of 24, 30 and 36: **1, 2, 3, 6** Which of the factors of 24, 30, 36 is the **greatest**? 6 Based on the examples, how do we get the common factors of given numbers? ● List the factors of a given number ● Identify the common factors from the list. *1 as the Common Factor* *What is/are the common factor/s of 8 and 15?* Factors of 8: **1**, 2, 4, 8 Factors of 15: **1**, 3, 5, 15 Common Factors of 8 and 15: **1**	The teacher may ask these questions: ● Given these examples, what have you observed with the factors of each given number? *Factors of each given number consistently include the number itself and 1.* ● What factors are **common to all the given numbers**? *1 is a common factor of two or more numbers.* The teacher may give examples wherein the common factors of a given number is 1 Make the pupils realize the possibility that the common factor of given numbers is just 1. This can help them better understand the lesson on reducing fractions to the lowest term.

3. Lesson Activity

List the factors of each of the given numbers. Then identify the common factors of each set.

No.	Given Number	Factors	Common Factor/s
1	9		
	21		
2	22		
	7		
3	48		
	32		
4	16		
	20		
	28		
5	25		
	50		
	75		

Answer for the Lesson Activity:

1. Factors of 9: 1, 3, 9
   Factors of 21: 1, 3, 7, 21
   Common factors: 1, 3
2. Factors of 22: 1, 2, 11,22
   Factors of 7: 1, 7
   Common factor: 1
3. Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
   Factors of 32:1, 2, 4, 8, 16, 32
   Common factors: 1, 2, 4, 8, 16
4. Factors of 16: 1, 2, 4, 8, 16
   Factors of 20: 1, 2, 4, 5, 10, 20
   Factors of 28:1, 2, 4, 7, 14, 28
   Common factors:1, 2, 4
5. Factors of 25:1, 5, 25
   Factors of 50:1, 2, 5, 10, 25, 50
   Factors of 75:1, 3, 5, 15, 25, 75
   Common factors:1, 5, 25

D. Making Generalizations

1. Learners' Takeaways

The teacher will guide the pupils in completing this table.

Key Ideas/Concepts	*What I've Learned from the Discussion*	*Concepts that are Somewhat Confusing*	*Concepts I Totally Don't Understand*
Identifying multiples of given numbers up to 100			
Using multiples of a given number up to 100 in determining equivalent fractions			
Factoring a given number up to 100			

2. Reflection on Learning

Cite instances when individuals, regardless of status, age, gender, religion, race, skin color, or family background, are treated fairly and equally.

Explain how equivalent fractions represent the same value though they may look differently, and relate this as a metaphor for fairness and equality in treating other people equally regardless of status, race, age, gender, color of skin, family background, religion, etc.

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	**DAY 5** **1. Formative Assessment**	**Answer Key:**

I. Complete the table.

No.	Given Number	Multiples up to 100	Common Multiple/s	Factors	Common Factor/s
1	6				
	9				
2	14				
	28				
3	12				
	18				
	36				
4	9				
	8				
5	10				
	20				
	30				

II. Fill in the missing number to make the fractions equivalent.

1. $\frac{1}{8} = \frac{2}{\_} = \frac{3}{\_} = \frac{\_}{32} = \frac{5}{\_} = \frac{\_}{48}$
2. $\frac{5}{12} = \frac{10}{\_} = \frac{15}{\_} = \frac{20}{\_} = \frac{\_}{60} = \frac{30}{\_}$
3. $\frac{4}{3} = \frac{\_}{9} = \frac{\_}{15} = \frac{8}{\_} = \frac{16}{\_} = \frac{\_}{30}$
4. $\frac{\_}{5} = \frac{6}{10} = \frac{9}{\_} = \frac{\_}{20} = \frac{15}{\_} = \frac{18}{\_}$

I. 1) 6 and 9:
Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99
Common multiples: 18, 36, 54, 72, 90
Factors of 6: 1, 2, 3, 6
Factors of 9: 1, 3, 9
Common factors: 1, 3

2) 14 and 28:
Multiples of 14: 14, 28, 42, 56, 70, 84, 98
Multiples of 28: 28, 56, 84
Common multiples: 28, 56, 84
Factors of 14: 1, 2, 7, 14
Factors of 28: 1, 2, 4, 7, 14, 28
Common factors: 1, 2, 7, 14

3) 12, 18, and 36:
Multiples of 12: 12, 24, 36, 48, 60, 72, 84, 96
Multiples of 18: 18, 36, 54, 72, 90
Multiples of 36: 36, 72
Common multiples: 36, 72
Factors of 12: 1, 2, 3, 4, 6, 12
Factors of 18: 1, 2, 3, 6, 9, 18
Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36
Common factors: 1, 2, 3, 6

5. $\frac{2}{7} = \frac{20}{\quad} = \frac{\quad}{63} = \frac{\quad}{42} = \frac{6}{\quad} = \frac{4}{\quad}$

III. Determine if the fractions are equivalent through cross multiplication. Put a (/) if fractions are equivalent and (x) if not.

	Fractions	Equivalent or Not Equivalent
1.	$\frac{15}{25}\ and \frac{10}{15}$	
2.	$\frac{8}{24}\ and \frac{1}{4}$	
3.	$\frac{9}{18}\ and \frac{10}{20}$	
4.	$\frac{12}{11}\ and \frac{48}{44}$	
5.	$\frac{14}{9}\ and \frac{42}{27}$	

2. Homework (Optional)

4) 9 and 8:
Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99
Multiples of 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96
Common multiples: 72
Factors of 9: 1, 3, 9
Factors of 8: 1, 2, 4, 8
Common factor: 1

5) 10, 20, and 30:
Multiples of 10: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100
Multiples of 20: 20, 40, 60, 80, 100
Multiples of 30: 30, 60, 90
Common multiple: 60
Factors of 10: 1, 2, 5, 10
Factors of 20: 1, 2, 4, 5, 10, 20
Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
Common Factors: 1, 2, 5, 10

II.
1. $\frac{1}{8} = \frac{2}{16} = \frac{3}{24} = \frac{4}{32} = \frac{5}{40} = \frac{6}{48}$
2. $\frac{5}{12} = \frac{10}{24} = \frac{15}{36} = \frac{20}{48} = \frac{25}{60} = \frac{30}{72}$
3. $\frac{4}{3} = \frac{12}{9} = \frac{20}{15} = \frac{8}{6} = \frac{16}{12} = \frac{40}{30}$
4. $\frac{3}{5} = \frac{6}{10} = \frac{9}{15} = \frac{12}{20} = \frac{15}{25} = \frac{18}{30}$
5. $\frac{2}{7} = \frac{20}{70} = \frac{18}{63} = \frac{12}{42} = \frac{6}{21} = \frac{4}{14}$

III.
1) X
2) X
3) /
4) /
5) /

<table>
<tr><td rowspan="5">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5">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.</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>C. Teacher's Reflection</td><td colspan="3">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?</td><td>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.</td></tr>
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