SUPPLEMENTAL LESSONS

Math Grade 3
3rd Quarter

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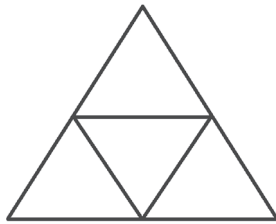
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3rd Quarter Grade 3
Supplemental Lesson Plan

Representing Fractions Using Regions, Sets, and the Number Line

**Introduction**

1. Post on the board the given shape below.

2. Ask the pupils to shade the given figure that represents $\frac{3}{4}$.

3. Call on a volunteer to shade the given shape on the board.

Body

1. Explain to the class how to write fractions from a given shape with equal parts shaded:

   - Check that the parts divided are equal or stated as equal.
   - Count the total number of equal parts which forms the denominator.
   - Count the number of shaded equal parts which forms the numerator.
   - Combine the denominator and numerator to form a fraction.

     Example: *Write the fraction represented by the shaded equal parts in the given shape below.*
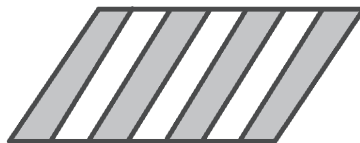
Knowledge

Representing Fractions

Learning Competency

M3NS-IIIb-72.5

- Represents fractions using regions, sets, and the number line

KU

Fractions are parts of a whole, the whole can stay the same even though the number of parts can change.

KQ

How do fractions relate to whole numbers?

Total number of equal parts: 7

Number of equal parts shaded: 4

The fraction represented by the shaded regions is $\frac{3}{4}$.

2. Provide more examples of shapes with equal parts shaded for the pupils to practice reading and writing fractions. Provide examples that are already in simplest form.

3. Explain to the pupils that fractions can also be represented using a number line. Draw an example of a number line to show the fraction $\frac{3}{4}$ as follows:

$$\begin{array}{ccccc} \mid & \mid & \mid & \mid & \mid \\ 0 & \dfrac{1}{4} & \dfrac{2}{4} & \dfrac{3}{4} & \dfrac{4}{4} \end{array}$$
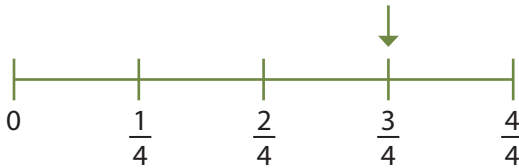
4. Draw empty number lines for the pupils to practice on.

5. To discuss how to represent fraction using set models, let the pupils watch a video presentation. (Sample site: https://learnzillion.com/lessons/105-compare-fractions-using-a-set-model)

$$\frac{2}{3}$$ ☺☺☺☺☺☺ ☺☺☺☺☺☺

$$\frac{1}{6}$$ ☺☺☺☺☺☺ ☺☺☺☺☺☺

6. After watching the video, ask the students: "*How do we represent fractions using set models?*"

7. Demonstrate with the class how to represent fractions using set models.

8. Let the pupils practice representing fractions using shaded figures, number lines, and sets.

Differentiated Activities

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9. For skill building, let the pupils choose from the following tasks:

    a.   Represent two fractions using regions.

    b.   Represent two fractions using number line.

    c.   Represent two fractions using set models.

Conclusion

Assess the pupils' understanding of the lesson and skills learned using *Response Cards* (Lujan, 2011) below:

4 – Understands fully

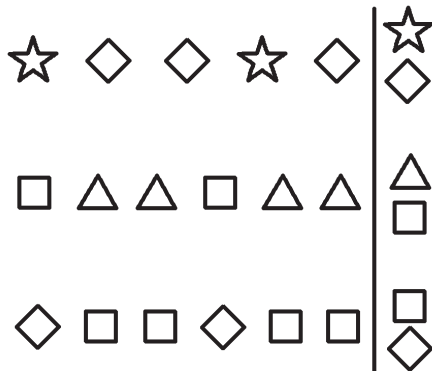3 – Demonstrates an understanding or application of the goal

2 – Minimal understanding

1 – No understanding

Determining the Missing Term/s in a Given Combination of Continuous and Repeating Pattern

Introduction

Post on the board repeating patterns. Call on a volunteer to determine the next term for the continuous and repeating pattern given.

Knowledge

Determining the Next Term/s in a Sequence

Learning Competency

M3AL-IIIi-4

- Determines the missing term/s in a given combination of continuous and repeating pattern

Body

1. Show to the class the given pattern below:

   $+ - \times \times \times \div + - \times \times \times \div + - \times \times \times \div + - \times \times \times \div$

   a. What are the symbols that repeat? (+, – , x, ÷)
   b. How many times does each symbol repeat for each pattern? (1 +, 1 - , 3 x, 1 ÷)
   c. Underline the repeating pattern and identify the next three terms in the pattern. (+)

2. Show another continuous and repeating pattern, and explain to the class how to determine the next or missing term/s in a repeating pattern. Consider the following guide questions:

   a. What are the shapes, numbers, or signs that repeat?
   b. What attribute is changing?
   c. How is it changing?
   d. Underline the part of the pattern that repeats.

   Example:

   ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺

   a) What are the shapes, numbers, or signs that repeat? _____smiley_____
   b) What attribute is changing? _____size_____
   c) How is it changing? _____big, small…_____
   d) Underline the part of the pattern that repeats.

3. Give the pupils more examples and exercises for practice.
4. For skill building, let the pupils draw and create their own pattern with attributes of their choice.

KU

Patterns can be recognized, named, extended, and created using shapes, numbers, and symbols with their attributes.

KQ

How is pattern represented and described?

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Conclusion

To facilitate the synthesis of the lesson, ask the pupils to complete the following sentences:

- I learned that...
- I discovered that...
- I rediscovered that...
- I realized that...
- I need help on...

Finding the Missing Value in a Number Sentence Involving Multiplication or Division of Whole Numbers

Introduction

Review multiplication basic facts in a form of a game or an interactive online game. (Sample site: http://www.math-play.com/Multiplicaton-Jeopardy/Multiplication-Jeopardy.html)
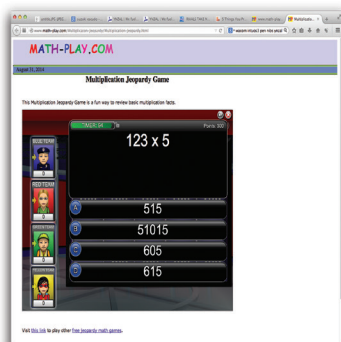
Body

1. Conduct a mental drill on multiplication and division of whole numbers.

2. Then, ask the pupils to create a number sentence for a given number using multiplication or division.

    Example:

    $8 \quad = 4 \times 2, 16 \div 2, 8 \times 1, 8 \div 1$

Knowledge

Multiplication and Division of Whole Numbers

Learning Competency

M3AL-IIIj-12

- Finds the missing value in a number sentence involving multiplication or division of whole numbers

KU

Multiplication and division have an inverse relationship.

KQ

How are multiplication and division related?

3. At this point, show to the class number sentences with missing values for multiplication and division.

   a. $64 \div n = 4$

   b. $250 \times 13 = n$

   c. $n \div 6 = 13$

   d. $84 \div 4 = n$

   e. $n \div 5 = 71$

4. Let the pupils answer the given number sentences using a spin-off *Power of Two* (Bellanca, 2009).

   a. Ask the pupils to answer individually.

   b. When all the pupils have finished the task, ask them to form pairs.

   c. Instruct each pair to discuss their answers and if needed, come up with a new and better answer.

5. Let the pupils answer more exercises for pattern recognition.

Conclusion

Ask pupils to complete the *Learning Log Matrix* to show their understanding of the lesson.

What I already knew…	What's important to remember about it…
This reminds of me of…	I am not sure about this…