

SUPPLEMENTAL LESSONS

**Math Grade 2
3rd Quarter**



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3rd Quarter Grade 2 Supplemental Lesson Plan

Illustrating Multiplication and Division Are Inverse Operations

Introduction

1. Conduct a review of multiplication.
2. Pin up the Multiplication Table of 3 poster and revise with the class.
3. Cover up the poster and play the following game to test the pupils' ability to recall the Multiplication Table of 3 as follows:
 - a. Pair up the pupils. Give each pair a deck of cards numbers 1 to 10. Shuffle the cards.
 - b. One pupil will draw a card to show a number and the other pupil will have to multiply the number by 3. Every correct answer will be awarded 2 points.
 - c. The pupils will take turns to draw cards and multiply the number by 3.
 - d. Play 10 rounds of the game and acknowledge the pupil with the highest score.

Body

1. Using the preliminary activity as a springboard, tell the class that in order to do division, one must know the multiplication tables as well.
2. Write on the board the following multiplication sentence and then ask individual pupils to fill in the blanks:
 $3 \times \underline{\quad} = 27$ $3 \times \underline{\quad} = 12$ $3 \times \underline{\quad} = 30$
 $\underline{\quad} \times 3 = 6$ $\underline{\quad} \times 3 = 15$ $\underline{\quad} \times 3 = 3$
 $\underline{\quad} \times 3 = 9$ $\underline{\quad} \times 3 = 24$ $3 \times \underline{\quad} = 18$
3. Show to the class a picture of 30 pupils standing in three rows. Ask the pupils: "How many pupils are there in each row?"

Knowledge

Multiplication and Division

Learning Competency

M2NS-IIIc-53

- Illustrates that multiplication and division are inverse operations

KU

Multiplication is the inverse operation of division; it helps computation faster.

KQ

How does knowledge about multiplication facts help to solve problems?

4. Lead the class to see that a division is needed to find the answer. Show the division by circling the rows to form three groups. Write on the board the division sentence: $30 \div 3 = 10$. Hence, there are 10 pupils in each row.
5. Repeat the process using different pictures showing different number of items.
6. Then, let the pupils answer oral or written exercises on multiplication tables and division of numbers.

Conclusion

Conduct a spin-off 3-2-1 (Rutherford, 2008) activity.

Ask the pupils to write on a piece of paper their thinking on the:

- 3 important facts they learned
- 2 questions about the lesson
- 1 realization about the lesson

Word Problems Involving Division of Numbers by 2, 3, 4, 5, and 10 of Whole Numbers Including Money

Introduction

1. Conduct an oral drill exercises on multiplication of 2, 3, 4, 5, and 10.
2. Then conduct a mental drill on dividing of whole numbers involving 2, 3, 4, 5, and 10.

Body

1. Post the given problem on the board:
Mother baked some cupcakes. She put 5 raisins on each cupcake and used 35 raisins in all. How many cupcakes did she make?
2. Ask a volunteer to read aloud the given problem.

Knowledge

Word Problems Involving Division of Whole Numbers

Learning

Competency

M2NS-IIIc-56.1

- Solves routine and non-routine problems involving division of numbers by 2, 3, 4, 5, and 10 and with any of the other operations of whole numbers including money

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3. Ask the pupils what are the clue words that they noticed from the given problem that will help them solve the problem.
4. At this point, recall Polya's 4-step strategy used to solve word problems.
 - Read the question.
 - Plan.
 - Do the calculations.
 - Check your answer.
5. Post another problem. This time, with the other operations. Then, let the pupils form pairs and answer the problem together.
6. Call on volunteers to share how they arrived at their answer.
7. Give the pupils problem sets on word problems involving division of whole numbers by 2, 3, 4, 5, and 10, and then conduct a spin-off *Think-Pair-Share activity* (Lyman, 1981).
 - a. The pupils will work on the problems individually.
 - b. They form in pairs to discuss their thoughts and compare their answers.
 - c. The pairs will share their answers to the whole class.
8. Check the pupils' answers.
9. Give the pupils practice exercises.

Conclusion

To assess the pupils' understanding of the lesson, let them answer this **Thumb It!** activity:



means "I understand it."



means "I understand some of it."



means "I do not understand it."

using appropriate problem-solving strategies and tools

KU

Numbers can be used to count, label, order, identify, measure and describe things and experiences.

KQ

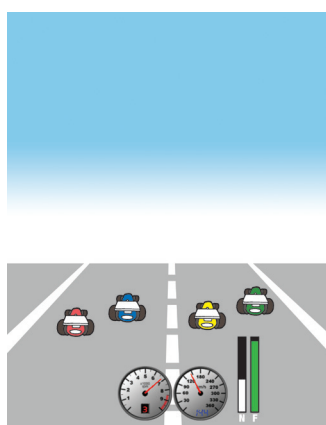
How many different ways can you represent (show) a number?

1. I can divide numbers by 2, 3, 4, 5, and 10.
2. I can solve problems involving division of whole numbers by 2, 3, 4, 5, and 10.
3. I can solve problems involving division of whole numbers by 2, 3, 4, 5, and 10 with the other operations correctly.
4. I can identify clue words to help me determine the operation/s to use in a given problem.
5. I can correctly write the number sentence of a given problem.

Creates Problems Involving Division of Whole Numbers Including Money

Introduction

Let the pupils practice their division of numbers using an interactive online game. (Sample site: http://www.mathplayground.com/ASB_DragRaceDivision.html)



Body

1. Let the pupils form pairs. Let the pairs create their own word problems individually involving division of whole numbers. Then, let them exchange their work and answer each other's problem. They can comment or correct words or phrases from the problem for easy understanding.

Knowledge

Word Problems
Involving Division

Learning Competency

M2NS-IIIc-57.1

- Creates word problems involving division of whole numbers including money

KU

Multiplication is the inverse operation of division; it helps computation faster.

KQ

How does knowledge about multiplication facts help to solve problems?

Example:

Mother has 20 pieces of ₱1-coins. She has 4 children. If she will give each child an equal amount of coins, how much will each child receive?



2. Let the pupils pair up with another classmate and let the other classmates answer their problem.
3. After a few rotations, call on volunteers to read their problem. Instruct the pupil who paired up with the volunteer that he/she should not answer the problem anymore.
4. At this point, give the pupils problem sets, then conduct a spin-off *Think-Pair-Share* activity (Lyman, 1981).
 - a. The pupils will work on the problems individually.
 - b. Then they will form pairs to discuss their thoughts and compare their answers.
 - c. The pairs will share their answers to the whole class.
5. For enrichment, let the pupils choose from the given tasks below:
 - a. Create problems involving division of whole numbers including money with the correct answer by drawing illustrations.
 - b. Create problems involving division of whole numbers including money with the correct answer and act it with the class.

Differentiated Activities

- c. Create problems involving division of whole numbers including money with the correct answer and sing it with the class.

Conclusion

Ask the pupils to accomplish the *Exit Sheet* (Lujan, 2011) below:

<p>I Understand</p> <p>I learned...</p> <p>The lesson helped me...</p>	<p>I Need Help</p> <p>I need help with...</p> <p>I have a question: _____</p>
<p>I Need Practice</p> <p>I am still confused about...</p> <p>I need to practice...</p>	<p>I Want More</p> <p>I could use this information...</p> <p>I wish I could...</p>

Arranging Similar Fractions in Increasing or Decreasing Order

Introduction:

1. Assess the pupils' knowledge on ordering similar fractions using the Knowledge Rating Chart below:

Knowledge Rating Chart Ordering Similar Fractions
Circle the number that represents your learning experience.
1. I've never heard of this.
2. I've heard of this, but I have never experienced how to arrange similar fractions in increasing or decreasing order.
3. I know how to arrange similar fractions in increasing or decreasing order.

Knowledge

Ordering Similar Fractions

Learning Competency

M2NS-III-f-78.2

- Arranges similar fractions in increasing or decreasing order

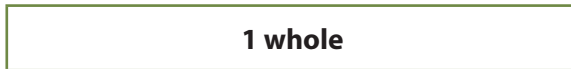
KU

Numbers can be used to count, label, order, identify, measure, and describe things and experiences.

2. Ask the pupils who gave a rating of 3 to share their experiences on the topic.

Body

1. Recall similar fractions and ask the pupils to give examples.
2. Then, discuss with the class how to compare similar fractions using relation symbols $>$ and $<$.
3. Lead the pupils to see that for fractions having the same denominators, the fraction which has a greater numerator has a greater value.



- a. Draw on the board a rectangular strip to show a whole.
- b. Draw another three rectangular strips of the same size to show $\frac{1}{5}$, $\frac{3}{5}$, and $\frac{4}{5}$ as follows:



- c. Get the class to identify the greatest fraction and the smallest fraction by looking at the rectangular strips.
 - d. Then, let the pupils arrange the fractions from smallest fraction to greatest.
4. Provide a few more examples for different denominators using rectangular strips and test the pupils' understanding.
 5. Recall that for similar fractions, the opposite is true; that is, the greater the numerator, the greater the fraction. Show examples to emphasize this.
 6. Then, let the pupils arrange fractions from greatest to smallest.

KQ

How many different ways can you represent (show) a number?

7. Using *Pairs Compare* (Kagan, 1998), let the pupils practice arranging similar fractions in increasing and decreasing order.
 - a. The pupils form pairs and answer the first question together in a specific time.
 - b. When it is time, the pairs will pair up with another pair to answer the next question.
 - c. The process will continue until all questions are answered.

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

Finding the Missing Value in a Number Sentence Involving Multiplication or Division of Whole Numbers Using 2, 3, 4, 5, and 10 Only

Introduction

Conduct a review of multiplication tables for 2, 3, 4, 5, and 10.

x	2	3	4	5	10
1	2	3	4	5	10
2	4	6	8	10	20
3	6	9	12	15	30
4	8	12	16	20	40
5	10	15	20	25	50

Knowledge

Multiplication and Division

Learning Competency

M2AL-IIIj-11

- Visualizes and finds the missing value in a number sentence involving multiplication or

6	12	18	24	30	60
7	14	21	28	35	70
8	16	24	32	40	80
9	18	27	36	45	90
10	20	30	40	50	100

Body

- Pin up the Multiplication Table of 2, 3, 4, 5, and 10 poster and revise with the class.
- Cover up the poster and play the following game to test pupils' ability to recall the Multiplication Table:
 - Pair up the pupils. Give each pair a deck of cards numbers 1 to 10. Shuffle the cards.
 - One pupil will draw a card to show a number and the other pupil will have to multiply the indicated number. Every correct answer will be awarded 2 points.
 - The pupils will take turns to draw cards and multiply the numbers.
 - Play 10 rounds of the game and acknowledge the pupil with the highest score.
- Play another 10 rounds, but this time, it involves division of whole numbers involving 2, 3, 4, 5, and 10.
- Write on the board the following multiplication and division sentences and ask individual pupils to fill in the blanks:

$$5 \times \underline{\quad} = 20 \quad 36 \div \underline{\quad} = 4 \quad 45 \div \underline{\quad} = 5$$

$$\underline{\quad} \times 4 = 8 \quad \underline{\quad} \div 5 = 6 \quad \underline{\quad} \times 4 = 24$$

$$\underline{\quad} \times 3 = 15 \quad \underline{\quad} \div 3 = 10 \quad 2 \times 9 = \underline{\quad}$$
- Then, let the pupils answer oral or written exercises on multiplication tables and division of numbers.

division of whole numbers using 2, 3, 4, 5 and 10 only

Example:

$$5 \times \underline{\quad} = 30$$

$$30 \div \underline{\quad} = 6$$

KU

Multiplication is the inverse operation of division; it helps computation faster.

KQ

How does knowledge about multiplication facts help to solve problems?

Conclusion

For the lesson synthesis, ask the pupils to choose a statement to complete from the following:

- I learned...
- I need help on...

