6

Math

Teacher's Guide

This Teaching Guide is a work in progress. Despite several rounds of revision and evaluation, this material may still contain some mistakes, errors, duplications or omissions that can be revised and updated to correct learning. DepEd Region VIII welcomes corrections, feedback and recommendations to further improve this Teaching Guide.

We value your feedback and recommendations.

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Math– Grade 6
Teacher's Guide
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MATH 6

1st Quarter

(Lesson 1)

I. OBJECTIVE/S

Adds or subtracts dissimilar fractions in simple and mixed forms without regrouping **(M6NS-Ia-86)**

Value Focus: Appreciating local food products in the community

II. SUBJECT MATTER

A. Skill: Adding and subtracting simple fractions and mixed numbers without or with regrouping

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 60/61, pp. 243-246/247-249

C. Materials: flash cards, show me board, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Have a drill on giving the Least Common Denominator (LCD) of the pair of fractions. Use flashcards. Encourage the pupils to give answers with speed and accuracy.

   a) ¼ and 1/6
   b) 2/3 and ½
   c) 2/7 and 1/3
   d. 1/5 and ¾
   e. 2/9 and 1/8
   f. 2/3 and ¾
   g) 1/10 and 2/3
   h. 1/5 and 1/7

2. Review

   Ask: How do you add/ subtract similar fractions without regrouping? What can you say about their denominators?

   Use flashcards. Answer on your Show Me Board.

   a) ¼ + 2/4
   b) 1 5/7 + 1/7
   c) 3 3/5 + 1 1/5
   d) 2 1/3 + 3 1/3
   e. 9/17 -- 6/17
   f. 5 6/11 -- 3/11
   g. 9 7/8 -- 4 3/8
   h. 17 4/9 – 15 2/9

3. Motivation

Show pictures of rice cake or biko and cassava cake.

http://panlasangpinoy.com/2009/10/31/filipino-asian-food-dessert-rice-cake-biko-recipe/

http://panlasangpinoy.com/2009/08/16/filipino-food-dessert-holiday-cassava-cake-recipe/

Ask: Have you eaten a rice cake or a cassava cake? What are the ingredients used in cooking these cakes? Let pupils share their experiences in cooking rice and cassava cakes.

Values Integration: Elicit from the pupils that cooking rice cake can be a good source of income in the community.

B. Developmental Activities

1. Presentation

Present the situations

Mimi is good at cooking. Every Saturday, she sees to it that she cooks some rice cakes and cassava cakes to be sold in the community. These cakes uses coconut milk. For the rice cake, it needs 2 ¾ cups and 1 1/8 cups for cassava cake.

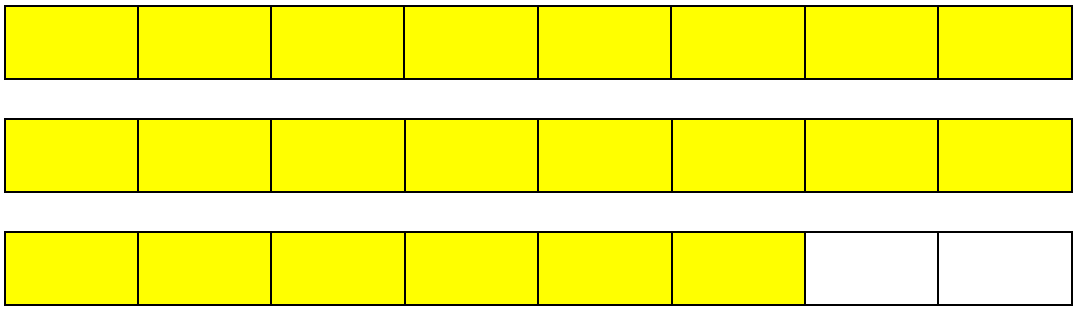
Mimi found out that the cooked rice cake is too sticky so she reduces 1 ½ cups from the original amount of the coconut milk. How many cups of coconut milk does she use in the newly-baked rice cake?

Ask: What does Mimi bake every Saturday? What is the common ingredient used in cooking rice and cassava cakes? What do the situations ask for? How will you solve the problems?

2. Performing the activity

Group the pupils into four working teams. Two groups are assigned in each situation. Let them think of ways how to solve the problem.

Expected answers:
Solution 1 for question 1: By drawing regions



2 6/8 = 2 3/4

1 1/8

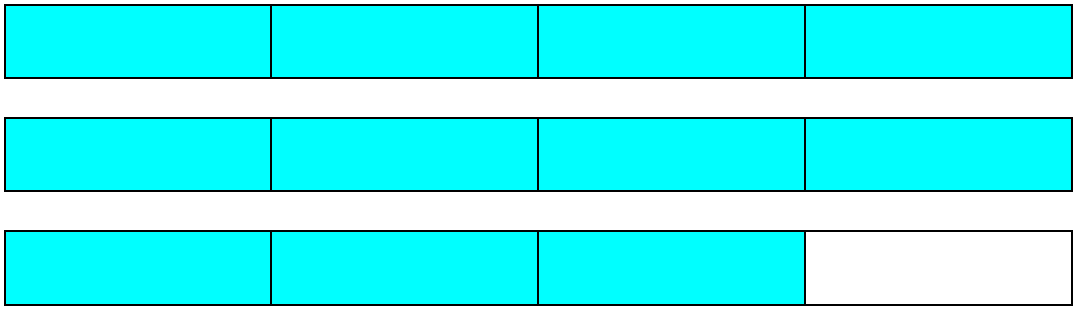
2 6/8 + 1 1/8 = 3 7/8 Answer: 3 7/8 cups of milk are needed

Solution 2 for question 1:

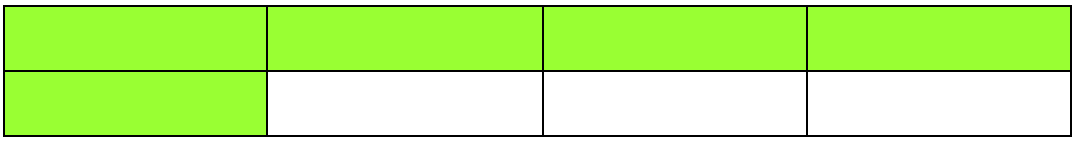
2 ¾ + 1 1/8 = 2 6/8 + 1 1/8 = 3 7/8

Rename the dissimilar fractions using LCD.
Add the numerators. Add the whole numbers. Write the sum of the numerators over the common denominator. Change your answer to lowest term if possible.

Solution 1 of question 2: by drawing regions



2 ¾



1 2/4 = 1 ½

2 ¾ - 1 2/4 = 1 ¼ cups of coconut milk

Solution 2 of question 2:

2 ¾ - 1 ½ = 2 ¾ - 1 2/4 = 1 ¼

Rename the dissimilar fractions as similar fractions using LCD.
Subtract the numerators. Subtract the whole numbers. Write the difference of the Numerators over the common denominator. Change your answer to lowest term if possible.

3. Processing the activities

Ask the groups to present and discuss their answers on the board.
Ask: How did you solve for the answers?

Expected answers:

(in Adding Dissimilar Fractions without regrouping)

- We drew regions to show 2 6/8 as 2 ¾ and 1 1/8 as 1 1/8. Then, we combined the regions to get 3 7/8.
- We changed dissimilar fractions as similar fractions before adding.
- We added the numerators. Then, we also added the whole numbers. Write the sum of the numerators over the common denominator.

(in Subtracting Dissimilar Fractions without regrouping)

- We drew regions to show 2 3/4 as 2 ¾ and 1 1/2 as 1 2/4. Then, we subtracted the regions to get 1 1/4.

- We changed dissimilar fractions as similar fractions before subtracting.
- We subtracted the numerators. Then, we also subtracted the whole numbers. Write the difference of the numerators over the common denominator.

4. Reinforcing the concept and skill

Add or subtract the following:

a) 3/8 + ½
b) 5 3/5 + 2 1/3
c) 8 2/3 – 1/9
d) 2 5/7 + ¼
e) 7/9 – 2/5
f) 7 5/8 – 3 1/4

5. Summarizing the lesson

Lead the class to give the following generalization by asking:
How do we add/subtract dissimilar fractions without regrouping?

To add/subtract dissimilar fractions without regrouping:

- Change dissimilar fractions to similar fractions before adding/subtracting.
- Add/subtract numerators. Write the sum/ difference over the common denominator.
- With mixed forms, add/ subtract the fractions first, then the whole numbers. Add/subtract the results. Reduce the answers to lowest terms when needed.

6. Applying to the new and other situations

Find the sum/difference:

a) 8 1/5 + ¼ + ½
b) 5 7/9 – 2/3
c) 6 1/8 + 1/4
d. 9 ½ - 2 2/5
e. 10 2/3 – 5 1/4

IV. ASSESSMENT

Find the sum/ difference. Express your answers in lowest terms if needed. Write the answers on your answer sheets.

a) 1/5 + 1/6 + ½
b) 5 ½ - 2 ¼
c) 4 ¾ + 1 1/6
d) 4/5 – 1/3
e) 1/3 + 3 1/7 + 2 1/3
f) 6 1/5 + 2 1/10
g) 1 1/9 + 2 1/2
h) 3 7/8 – 1/2
i) 1 1/8 + 3 1/6 + 1/3
j) 5 ½ - 2 1/4

V. ASSIGNMENT

Find the sum/ difference. Express your answers in lowest terms if needed.

1. 16 ¼ - 13 1/8
2. 2 1/6 + 1 1/7 + 3 1/14
3. 1/3 + 3/10 + 1/15
4) 6/7 – 1/2
5) 3 1/16 + 2 1/8 + 3 1/4

MATH 6

1st Quarter
(Lesson 2)

I. OBJECTIVE/S

Adds or subtracts dissimilar fractions in simple and mixed forms with regrouping **(M6NS-Ia-86)**

Value Focus: Thoughtfulness

II. SUBJECT MATTER

A. Skill: Adding and subtracting simple fractions and mixed numbers without or with regrouping

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 62/63, pp. 250-255

C. Materials: flashcards, show me board, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Conduct a drill on adding/subtracting similar fractions with regrouping.
   Ask: How do you add/subtract similar fractions with regrouping? What can you say about their denominators?

   Use flash cards. Answer on your Show Me Board.

   d) 9/12 + 4/12 — d. 4 1/10 – 2 7/10
   e) 4 2/7 – 1 5/7 — e. 1 11/12 + 2 7/12
   f) 2 7/9 + 3 8/9 — f. 5 8/15 – 4 10/15

   Provide more exercises if necessary.

2. Review

   Review on finding the Least Common Multiple (LCM) or Least Common Denominator (LCD). Encourage the pupils to demonstrate speed and accuracy.

   e) 1/5 and 3/10 — d. 9/15 and 1/4
   f) ¾ and 5/7 — e. 6/11 and 1/3
   g) 7/8 and 2/9 — f. 5/6 and 7/8

3. Motivation

   Your friend is sick. You want to visit her/him in their house. You want to bring something upon visitation.

   Ask: What are the things that you may be brought to her/him? How are you going to prepare these things?

Values Integration: Elicit from the pupils that caring to a friend is developing stronger relationship.

B. Developmental Activities

1. Presentation

   Present the situations

   > Berto visits a sick friend named Rodrigo. He brought some fruits to him. These are 1 ½ kg pineapples, 1 ¾ kg mangoes and 1 1/8 guavas. How many kilograms did he brought in all?

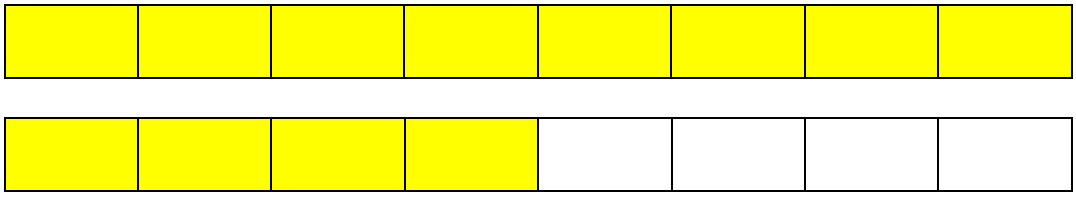
   > Rodrigo found out that 2 ½ kg of the fruits brought were ripe. How many kilograms of the fruits are still unripe?

   Ask: What did Berto bring to Rodrigo? What do you think is the reaction of Rodrigo when Berto visited him? What do the situations ask for? How will you solve the problems?

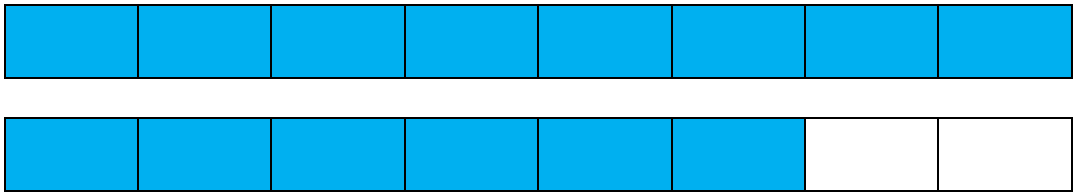
2. Performing the activity

   Group the pupils into four working teams. Two groups are assigned in each situation. Let them think of ways how to solve the problem. Ask the groups to work cooperatively in finding the answers to the problem. Give them enough time to think and perform the task.

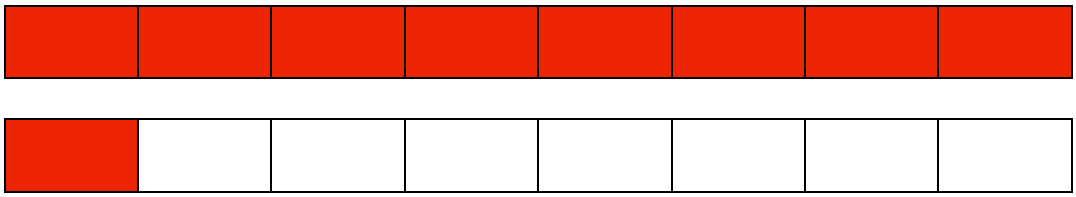
   Expected answers:
   Solution 1 for question 1: By drawing regions



1 ½ = 1 4/8



1 ¾ = 1 6/8



1 1/8 = 1 1/8

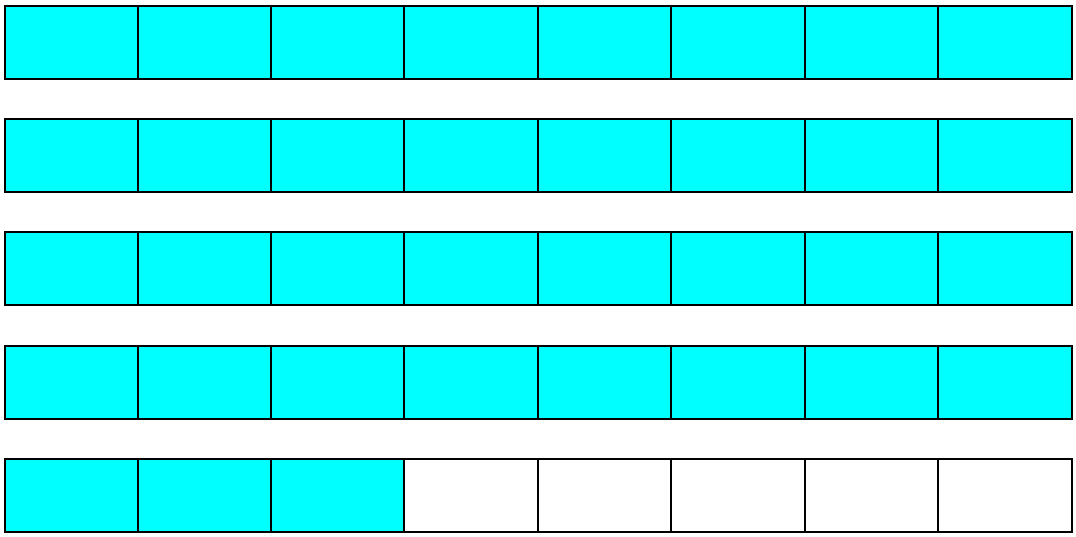
1 4/8 + 1 6/8 + 1 1/8 = 3 11/8 or 4 3/8 Answer: 4 3/8 kg of fruits

Solution 2 for question 1:

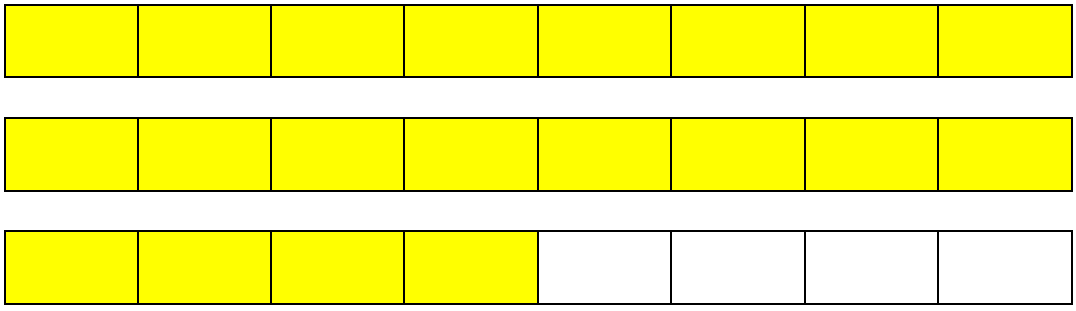
1 ½ + 1 ¾ + 1 1/8 = 1 4/8 + 1 6/8 + 1 1/8 = 3 11/8 or 4 3/8 kg of fruits

Rename the dissimilar fractions using LCD.
Add the numerators. Add the whole numbers. Write the sum of the numerators over the common denominator. Rename or regroup, if necessary. Change your answer to lowest term if possible.

Solution 1 of question 2: by drawing regions



4 3/8 = 4 3/8



2 ½ = 2 4/8

4 3/8 – 2 4/8 = 3 8/8 + 3/8 = 3 11/8 – 2 4/8 = 1 7/8 kg of fruits are unripe

Solution 2 of question 2:

4 3/8 - 2 ½ = 4 3/8 - 2 4/8 = 3 8/8 + 3/8 = 3 11/8 – 2 4/8 = 1 7/8 kg of fruits are unripe

Rename the dissimilar fractions as similar fractions using LCD.
Subtract the numerators. Rename or regroup, if necessary. Subtract numerators. Subtract whole numbers. Write the difference of the numerators over the common denominator. Change your answer to lowest term if possible.

3. Processing the activities

Facilitate the discussion of the answers of the group based from the activity.
Ask: How did you solve for the answers?

Expected answers:

(In Adding Dissimilar Fractions with regrouping)

- We drew regions to show 1 4/8 as 1 1/2 , 1 6/8 as 1 ¾ and 1 1/8 as 1 1/8. Then, we combined the regions to get 3 11/8 and rename/regroup as 4 3/8.
- We changed dissimilar fractions similar fractions before adding.
- We added the numerators. Then, we also added the whole numbers. Write the sum of the numerators over the common denominator. We rename/regroup the sum.

(In Subtracting Dissimilar Fractions with regrouping)

- We drew regions to show 4 3/8 as 4 3/8 and 2 4/8 as 2 1/2. Then, we rename/ regroup 4 3/8 as 3 11/8. We subtracted the regions to get 1 7/8.
- We changed dissimilar fractions similar fractions before subtracting.
- We subtracted the numerators. We rename/regroup the minuend. We subtracted the numerators .Then, we also subtracted the whole numbers. Write the difference of the numerators over the common denominator.

4. Reinforcing the concept and skill

Add or subtract the following:

a) 2/3 + 3/4
b) 1 4/9 – 8/15
c) 1/3 + 1 5/8
d) 6 9/12 – 5/6
e) 9 3/6 + 4 4/9
f) 7 5/16 – 3 3/8

5. Summarizing the lesson

Guide the pupils to give the following generalization by asking:
How do we add/subtract dissimilar fractions with regrouping?

To add dissimilar fractions with regrouping:

- Change dissimilar fractions to similar fractions before adding.
- Add numerators. Write the sum/ difference over the common denominator.
- With mixed forms, add the fractions first, then the whole numbers. If the sum is equal to 1 or more than 1, rename or regroup.

To subtract dissimilar fractions with regrouping:

- Change dissimilar fractions to similar fractions before subtracting.
- Subtract the fractions. Rename or regroup the minuend. Write the difference over the common denominator.
- Express the difference to lowest terms.

6. Applying to the new and other situations

Solve the following:

d) 1 6/12 + 2 4/9 + 2 2/3
e) 3 ¼ - 1 1/2
f) 5/20 + 7 9/10 + 1 ½

d. 5 1/8 + 2 2/4 + 1 3/6
e. 5 1/8 – 2 3/4
f. 19 3/7 + 1 5/11

IV. ASSESSMENT

Find the sum/ difference. Express your answers in lowest terms if needed. Write the answers on your answer sheets.

f) 2 ½ - 1 2/3
g) ½ + 2 3/6

c) 6 2/3 – ¼
d)1/2 +1/3 + ¼

e. 8 3/10 + 2 3/5 + 2 7/12

V. ASSIGNMENT

Find the sum/ difference. Express your answers in lowest terms if needed.

4. 3 ¾ + 2 ½ + 3 5/8
5. 13 5/16 – 2 3/4
6. 5 7/8 + 4 7/10 + 3 4/5

4) 8 2/9 – 5 5/6
5) 8 3/10 + 2 3/5 + 2 7/12

MATH 6

1st Quarter
(Lesson 3)

I. OBJECTIVE/S

Solves routine and non-routine problems involving addition and /or subtraction of fractions using appropriate problem solving strategies and tools **(M6NS-Ia-87.3)**

Value Focus: Wise use of free time

II. SUBJECT MATTER

A. Skill: Solve routine and non-routine problems involving addition and /or subtraction of fractions using appropriate problem solving strategies and tools

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 66, pp. 266-270, Soaring 21st Century Mathematics 2002 pp. 76-84

C. Materials: drill cards, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Drill on reducing fractions to lowest terms.

   a) 7/42
   b) 16/20
   c) 50/60
   d. 63/81
   e. 4/36

   Provide more exercises if necessary.

2. Review

   Perform the indicated operations.

   h) 4 7/10 + 2 1/5 + 1 1/20
   i) 45 11/12 – 21 1/8
   j) 15 7/9 + 3 5/12 + 3 5/8
   d. 8 2/9 – 5 5/6
   e. 6 5/28 – 3 1/4

3. Motivation

   Ask: What do you usually do during your free time? (Wait for some responses)
   I have here some story problems about how people spend their free time.

B. Developmental Activities

1. Presentation

   Present the following problems:

   Adela spends her free time in reading novels. Each day she spends ¾ hour. A friend came in and she has already read by 2/3 hour. To complete her schedule, how much longer does she need to read?

- What is asked?
- What are the given facts?
- What operation will be used? Why?
- Write the number sentence.
- What is the answer?

2. Performing the activity

   Group Activity

   Solve the following problems. Follow the steps in solving word problems.

   a) Last week, Roy worked in his backyard garden. If he worked 4 1/3 hours on Saturday and 3 ¾ hours on Sunday, how many hours did he work in two days?
   b) Mila gathers fruits and put in all in the basket. In a basket of fruits, 5/9 of the fruits are santol, 1/3 are bananas and the rest are pineapples. What fraction of the fruits are pineapples?

3. Processing the activities

   Discuss/ guide the pupils how to answer a word problem involving addition and/ or subtraction of fractions.

   - Write what is asked in the problem
   - What are the given facts?
   - Identify the operation to be used in the problem. Finding the word clue.
   - How to write the number sentence?
   - And the complete answer.

4. Reinforcing the concept and skill

   Solve the following problems:
   Follow the steps in solving word problems involving addition and/or subtraction of fractions:

   a. Ben collects marbles and keeps these in a box. 3/10 of the marbles in a box are red and 2/5 of them are blue. If 9/10 of the marbles in a box are red, blue and green, what fraction of the marbles are green?
   b. Tessa cooked cassava cake and shared among her three friends. Melba got 4/7 of it and Sonia got 2/5 less than Melba. What fraction of the cassava caked did Anya get?

5. Summarizing the lesson

   Guide the pupils to give the following generalization by asking:
   What are the steps in solving word problems?

The steps in solving word problems:

- What is asked?
- What are given?
- What operation will be used?
- What is the number sentence?
- Complete answer

6. Applying to the new and other situations

Read and solve.

Andy spent 2/5 of her money on school supplies and 1/3 of it on his project. What fraction of his money was left?

IV. ASSESSMENT

Read and solve.

a. In a Science experiment, Carla observes that a bean sprout has grown 1 ¼ cm taller. If the height of the bean sprout was 4 3/10 cm in the last observation, what is its height now?
   - What is asked?
   - What are given?
   - What operation will be used?
   - Number sentence
   - Answer

b. Liza filled ¼ of a container with water while Ted added 1/3 of the container with water. What fraction of the container of water must be paired out so that the container is half-full?
   - What is asked?
   - What are given?
   - What operation will be used?
   - Number sentence
   - Answer

V. ASSIGNMENT

Read and solve.

Carlo climbed coconut tree. He climbed 1/3 of the tree and slipped back ¼ of the total height. He then climbed 5/12 of the tree again. What part of the tree is Carlo located now?

a. What is asked?
b. What are given?
c. What operation will be used?
d. Number sentence
e. Answer

MATH 6

1st Quarter
(Lesson 4)

I. OBJECTIVE/S

- Creates problems (with reasonable answers) involving addition and/or subtraction of fractions **(M6NS-Ia-88.3)**

Value Focus: Conserving water

II. SUBJECT MATTER

A. Skill: Creating problems (with reasonable answers) involving addition and/or subtraction of fractions

B. Reference: K to 12 Grade 6 Curriculum Guide, TG K to 12 Grade 5 pp. 111-116

C. Materials: flash cards, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Solve mentally. Give your answer in simplest forms.

   g) ¼ + 3/4 d. ¾ + 2/4
   h) 2/4 + 2/4 e. 5/9 + 6/9
   i) 1/5 + 3/5

   Provide more exercises if necessary.

2. Review

   Review problem-solving steps and strategies. Ask the learners to tell what they understand about following essential guide questions to problem solving.

3. Motivation

   Talk about the uses of water

   Ask: How important is the water? What are the things you've done in order to save water? Let the pupils share their experiences.

   Values Integration: Elicit from the pupils that water is important in the daily activities of the people.

B. Developmental Activities

1. Presentation

   Present the table below to the class.
   The table shows the number of liters of daily consumed of water by Asuncion and Brilliante families.

Asuncion family	8 1/8 L
Brilliante family	6 ¾ L

Based on the table presented, how will you create problems involving addition/subtraction of fractions?

2. Performing the activity

   Group Activity

   Group the pupils into four. Each group will create two problems which involve addition/subtraction based on the table presented above.

   Each group will report after the activity is done.

   Guide questions:

   How many liters of water did Asuncion family consume?
   How many liters of water did Brilliante family consume?
   Whose family consumed more water?
   What is the problem all about?
   How many liters of water did the two families consume?

3. Processing the activities

   After all the groups have presented,
   Ask: How did you find the activity? How did you create problems involving addition/subtraction of fractions?

   Expected answers:

   - We familiarize our group with the concept of addition and subtraction of fractions.
   - We thought of the problem we want to create.
   - We read sample problems and studied their solutions.

4. Reinforcing the concept and skill

   Present this problem and discuss to the pupils how to create and solve the problem.

   The table shows the time spent walking from their residence to the barangay hall.

Magda	2 1/8 hours
Brenda	1 6/7 hours

a) From their residence to the barangay hall, Magda spends 2 1/8 hours walking while Brenda needs 1 6/7 hours. Altogether, how many hours do the two walk?
b) From their residence to the barangay hall, Magda spends 2 1/8 hours walking while Brenda needs 1 6/7 hours. How much longer does Brenda need to be the same as Magda?

5. Summarizing the lesson

Lead the pupils give the following generalization by asking:

How do you create problems involving addition and subtraction of fractions?

To create problems involving addition/subtraction of fractions:

- Familiarize yourself with the concept.
- Think of a problem you want to create.
  a. Consider a character, cite the situation/ setting, data presented, word problems to be created, and the key question.
  b. Ensure that the word problems is clearly stated and practiced.
- Read some sample problems and study these solutions.

6. Applying to the new and other situations

Create a problem based on this table.

Feeding Beneficiaries	Rice consumption
Kinder pupils	3 ¾ kg
Grade 1 pupils	5 1/8 kg

IV. ASSESSMENT

Using the data below, create a one-step word problem involving addition/subtraction of fractions.

Name	**Juice prepared**	**Liters**
Noeme	Buko	2 7/9
Roel	Mango	3 1/3
Daisy	Pineapple	4 2/9

V. ASSIGNMENT

Create a one-step word problem involving addition/subtraction of fractions.

Meat bought by father	Weight
Pork	9 ½ kg
Beef	4 ¼ kg
Dressed chicken	6 ¾ kg

MATH 6

Ist Quarter
Lesson 5

I. OBJECTIVE

Multiplies simple fractions and mixed fractions **(M6NS-Ib-90.2)**

Value Focus: Be diligent and hardworking in daily life.

II. SUBJECT MATTER

A. Skill: Multiplying simple fractions and mized fractions
B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Guide 2010, Lesson pp. 250-253
C. Materials: flashcards, activity cards, charts, manila paper bond paper, crayon

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill: Basic Multiplication Facts

   Mental Computation

   a. Activity 1
      Solve for N:
      1. (3x7) + 5 = N
      2. (5x 5) + 6 = N
      3. (4x 3) +4 = N
      4. (6x2) + 3= N
      5. (3X5) + 10 = N

   b. Activity 2

      Change to improper fractions
      1. 10 ¼
      2. 2 ¼
      3. 4 2/6
      4. 5 ½
      5. 3 ¾

2. Review: Multiplication of fractions by cancellation

   a. 3/5 x 15/36
   b. 4/7 x 14/16
   c. ½ x 6/8
   4. 3/5 x 15/18
   5. 3/12 x 5/6

3. Motivation

   How many of you help at home during weekends?

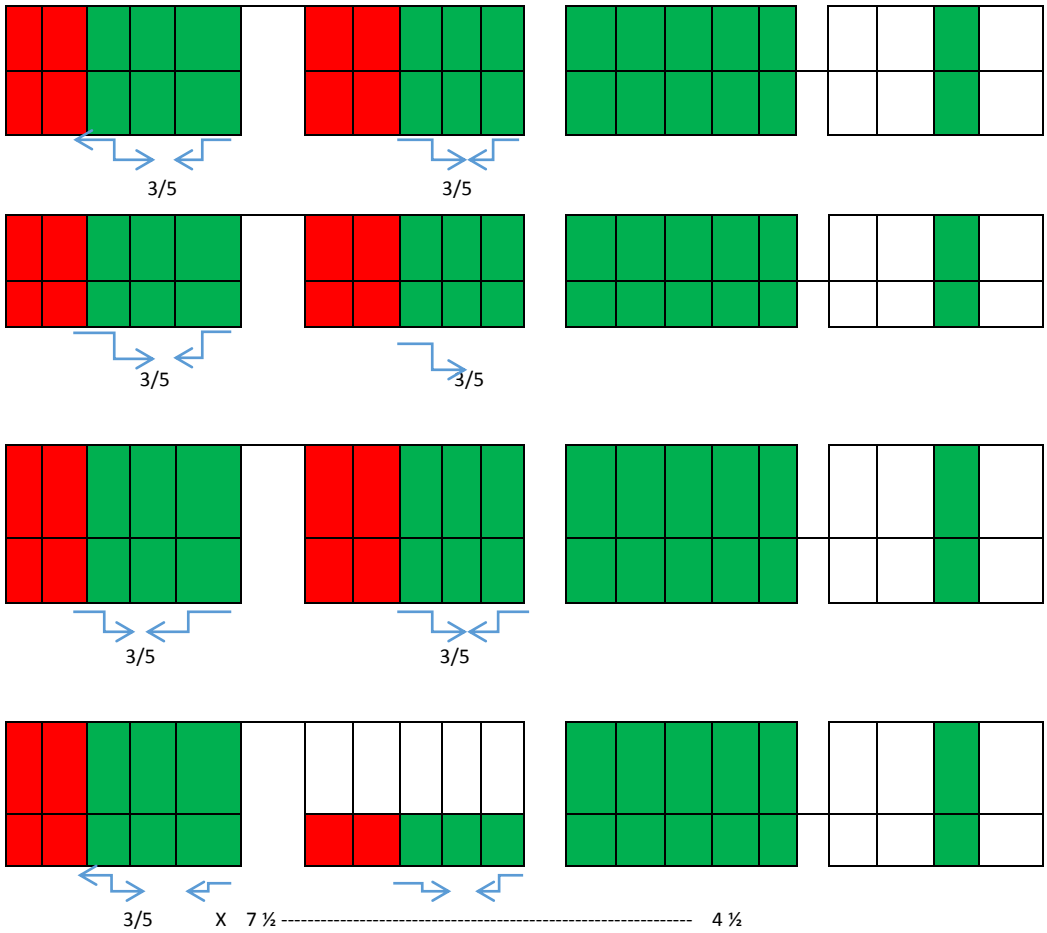
Talk about the picture of a boy with a basket of vegetables taken from the garden. Stress the importance of being diligent and hardworking as depicted in the story.

B. Developmental Activities

1. Presentation
   Read the problem:
   Mario harvested 7 ½ kilograms of carrots from his vegetable garden. He sold 3/5 of it in the market and the rest in the neighbourhood. How many kilograms were sold in the market?
   Give the mathematical sentence:
   3/5 of 7 ½ = 3/5 x 7 ½ = N

2. Performing the Activity

   a. Group pupils so that they can solve the problem cooperatively. Each group will be given 8 sheets of bond paper.
   b. Fold each of the sheets horizontally making 2 equal parts each. Shade the box across the crease.



3. Processing the Activities

   After all groups have presented, ask the pupils how did they find the activity?
   How did you solve the problem?
   Expected answers:

- We familiarized ourselves with the concept of changing mixed fractions to improper fractions.
- We familiarized also the concept of multiplication of simple fractions.

4. Reinforcing the concept and skill

   Direction: Change the mixed fraction to improper fraction before multiplying. Reduce the product in simplest form.

   1. ½ x2 ¼ =
   2. 3 1/5 x 2/4 =
   3. 4/5 x 2 1/3 =
   4. 5 x 4 2/3 =
   5. 3 2/3 x 5/6 =
   6. 2 ¼ x 3 2/4 =
   7. 6 x 3/5/9 -=
   8. 2 x 3/3/6 =
   9. 6 1/3 x 4 ½ =
   10. 1/5 x 2 2/6 =

5. Summarizing the lesson

   Lead the pupils to give the following generalization by asking:
   How do you multiply simple fractions and mixed fractions? Whole numbers and mixed fractions? Mixed fractions by another mixed fractions?

To multiply simple fractions and mixed fractions, do the following:

- Change the mixed fraction to improper fraction.
- Get the GCF of any of the numerator and denominator. Simplify by cancellation.
- Multiply the numerator by the numerator, the denominator by the denominator.
- Express the product in simplest form.

6. Applying to the new and other situations

   Directions: Group the pupils into four. Let the groups work collaboratively and solve the following problems. Problem 1 for group 1, problem 2 for group 2, problem3 for group 3 and problem 4 for group 4. Label your answers.

   Problem 1. Find the area of a room 5 1/3 meters long and 3 ¾ meters wide.

   Problem 2. Mother had 1 ½ dozen eggs in the refrigerator. She used 1/3 of the eggs. What part of the eggs was used?

Problem 3. Mari uses 1 1/8 teaspoons of salt for every kilogram of ground pork. How many teaspoons of salt will she use for 2 2/3 kilograms of ground pork?

Problem 4. For each day of the week, Joy spends 2 2/4 hours helping in the family store. How many hours does she work in a week?

IV. ASSESSMENT

Find the product. Write the answer in simplest form.

1. 1/3 x 2 ¼ =
2. 4 ½ x 1/5 =
3. 3 x 2 2 /4 =
4. 2 4/7 x 5 1/6 =
5. 3 ½ x 5 2/3 =

V. ASSIGNMENT

Remediation

Find the product of the following and express in lowest terms.

1. 1 ½ x 1 3/5
2. 2 1/3 x 1 1/5
3. 2 1/8 x 3 ½
4. 5 1/5 x 4 ½
5. 4 2/5 x 3 1/4

Enrichment

Solve the following problems.

1. Fely picked 4 ½ bags of guavas in the farm. Each bag weighed 2 ½ kilograms. How many kilograms of guavas did Fely pick?
2. Charmi's mother is knitting a sweater. She knits 3 ½ rows each hour. How many rows will she knit in 4 ½ hours?
3. Find the area of a table 5 ½ meters by 4 2/3.
4. Lito gathered 10 ½ kilograms of coconut each day. How many kilograms of coconut did he gather in 5 days?
5. Think of this. Is 2 2/3 x 4 ½ more or less than 10?

MATH 6

Ist Quarter
Lesson 6

I. OBJECTIVE

Solves routine or non-routine problems involving multiplication without or with addition or subtraction of fractions and mixed fractions using appropriate problem solving strategies and tools. **(M6NS-Ib-92.2)**

Value Focus: Love of work.

II. SUBJECT MATTER

A. Skill: Solving routine or non-routine problems involving multiplication without or with addition or subtraction of fractions and mixed fractions using appropriate strategies and tools.
B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Guide 2010, pp. 258-261, Mathematics for a better Life 5 NPSBE pp. 124-129.
C. Materials: flashcards, activity cards, charts, manila paper bond paper

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill: Mental Computation

Relay

a. Form teams of 5 players.
b. The teacher places equal stacks of 3 by 5 cards with identical problem on top of a table.

Sample content of the cards:
Card 1 – Find the product of 3/5 and 1/9 = (1/15)
Card 2 – What is ½ of 20 = (10)
Card 3 – The inverse of 2/5 and 3/6 = (30/6)
Card 4 – What is the product of 2 x 3/6 = (6/6 or 1)
Card 5 – What is 1/5 of 25? = (5)
(Note: you can make more cards depending on the ability of your pupils.)

c. When the teacher says "Start", the first player of each team goes to the board and solve the problem on the card. As soon as the first player is finished, the second player goes to the board and solve the next problem. This goes on until everyone in the team does his part. The first team to finish answering the cards correctly wins the game.

2. Review:
   Checking of assignments.

3. Motivation.

   Do you know what your parents do to earn a living? (wait for their response). There is a man, we call Mang Pablo. He earns a living by planting fruit trees. Let's find out how Mang Pablo does his job. (Include some questions in the discussion to find out the attitude of their parents towards job.)

B. Developmental Activities

1. Presentation

   Mang Pablo and 4 of his friends went to his lanzones farm. He was happy when he saw the trees with fruits ready to harvest. They were able to pick 10 ½ baskets of lanzones. Each basket contained 8 2/3 kilograms. Mang Pablo gave each of his friends 3 ½ kilograms for helping pick the fruits and sold the rest. How many kilograms of lanzones were left?

   Ask: What does the problem ask you to find?
   How will you find the answer to the problem?

2. Performing the activity

   Divide the class into four groups. Each group must work together in solving the problem.
   Solution to the problem:

   Understand: Know what is asked in the problem.
   Fraction of kilograms of lanzones left

   Know the given facts = 10 ½ baskets. of lanzones picked by Mang Pablo
   8 2/3 kg. of lanzones each basket contained
   3 ½ kg. of lanzones were given to his friends
   4 were the friends

   Plan: Determine the operation to be used – Multiplication and Subtraction

   Solve: Show your solution

   (10 ½ x 8 2/3) – (3 ½ x 4) =
   (21/ 2 x 26/3) - (7/2 x 4/1) =
   91 - 14 = 77 kg. of lanzones were left

   Check and Look Back : Using diagram

10 ½ baskets of 8 2/3 kg. of lanzones in 1 basket	gave 3 ½ to each of his 4 friends

3. Processing the Activities

   After sharing the answer, let the pupils express their thoughts about the activity. Appreciate their thoughts.
   Ask: How did you solve the problem?
   Expected answer:
   We followed steps in solving the problem.
   Understand the problem:
   - We knew what the problem asked for
   - We wrote down the given facts

   Plan:
   - We determine the operation used
   - We thought of the solution to the problem

   Solve:
   - We multiply first to get the kilograms of lanzones picked each basket contained and kilograms of lanzones given to friends
   - We subtract kilograms of lanzones picked to the kilograms of lanzones given

   Check and Look Back:
   - We draw or illustrate
   - We stated the correct answer

4. Reinforcing the concept and skill

   Read, analyze and solve

   a. Kim had 2 strips of bamboo measuring 3 ½ dm long each. He used 2 ¾ dm for picture frame and 2 ½ dm for kite frame. How many dm of bamboo strips was left?

b. In a boat, 1/5 of the passengers took first class, 3/8 had second class, and the rest travelled third class. If 400 passengers were in the boat, how many people took third class?
c. A vendor has 108 balloons. He sold ½ of them in the morning and 1/3 of the remaining in the afternoon. How many balloons were unsold?

5. Summarizing the lesson

Lead the pupils to generalize as follows;
Ask: How do we solve routine or non- routine problems involving multiplication without or with addition or subtraction of fraction and mixed fraction using appropriate problem solving strategies and tools?

In solving problems, we follow these steps:
Understand
* Know what the problem asked
* Know the given facts
Plan
* Determine the operation to use
* Write the number sentence
Solve
*show the solution to the problem
Check and Look Back
* Check if the answer is reasonable
* State the complete answer

6. Applying to the new and other situations

Read and solve the problem

Rialyn has 64 stamps. Lilian has 1 ½ times as many as Rialyn. Ely has ¾ as many as Lilian. How many stamps do the girls have together?

IV. ASSESSMENT

Read and understand the problem. Then solve.

1. There are 19 boys in section 1 and 23 boys in section 2. If 2/6 of them are boy scouts, how many boy scouts are there?
2. A lemon tree grows ¾ times as much as santan. If santan grows 2/3 cm in a month, what is the total length of the lemon tree and the santan?
3. Cecile can walk at the rate of 3 ½ per 1 1/4 hour a day. Cathy can walk at the rate of 4 1/5 km per 1 ¼ hour a day. How far can Cecile and Cathy walk if they will walk together at the same rate of time?

4. The boy scouts bought 12 meters of rope. They cut ½ of it into pieces of 2/3 meter each. How many pieces of rope did they make?
5. Richard bought 3 ¼ bag of grapes that weighed 2 ½ pounds per bag. He gave 1 1/3 pounds of grapes to his brother. How many pounds of grapes are left?

V. ASSIGNMENT

Remediation

Solve the problem

1. Conching barbecued 4 ½ kg of meat for her guest. If she served her guest and herself 5/8 of the barbecue, how much barbecue will she has left?
2. Belen used ½ meter out of 2 1/5 meter of cloth for pants. How many meters of cloth did she use?

Enrichment

Read and solve

1. Jim lives 1 ¾ km from the school. Judy lives 1 4/5 km from school in the same direction. How much farther is Judy's round trip than Jim's round trip?
2. Marietta bought 4 ½ m of dress material which cost P55.00 per meter. She gave the seller a five hundred peso bill. How much change will she receive?
3. Frida's allowance for marketing was P300.00. She bought 2 ½ kg. of chicken at P80.00 per kg. How much money did she still have for fish and other food?

MATH 6

Ist Quarter
Lesson 7

I. OBJECTIVE

Creates a problem (reasonable answers) involving multiplication without or with addition or subtraction of fractions and mixed fractions **(M6NS-Ib-93.2)**

Value Focus: Teamwork

II. SUBJECT MATTER

A. Skill: Creating problem (with reasonable answers) involving multiplication without or with addition or subtraction of fractions and mixed fractions.
B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Guide 2010, pp. 298 – 302, K to 12 Grade 5 Teachers Guide pp.131 - 133
C. Materials: flashcards, activity cards, charts, manila paper bond paper, crayon. https.//www.google.com.ph:imgres,

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill: Working with Pairs
   a. Ask the pupils to find a partner.
   b. Give instruction
      - Choose a 3 – digit even number
      - Multiply by 12
      - Add 15
      - Multiply by 10
      - Subtract 17
      - Subtract your answer
   c. What's your final answer
   d. What did you discover about your answer?

2. Review:
   Checking of assignments.
   What are the steps in problem solving? Let the pupils tell what they understand about each step.

3. Motivation

   (Problem puzzle game)
   (The picture will be cut into parts)

Paste together the picture of a cake. Upon completing the picture look at the back of the picture. A problem is written at the back of the cake. The first group to answer the problem correctly wins the game.

Sample Problem:

Mother bought a cake. _____ of it was eaten by her daughter, Ana. One half of it was given to her brother, John. What part of the cake was left?

Ask: What did you feel about the activity?
Did you member of your group help in accomplishing the activity?
Elicit the importance of working as a team.

B. Developmental Activities

1. Presentation

Present the problem written at the back of the cake.

Mother bought a cake. _____ of it was eaten by her daughter, Ana. One half of it was given to her brother, John. What part of the cake was left?

Discuss the class the given problem, how they arrive at their answer.
Ask: Who bought the cake?
What is asked in the problem?
What are given?
What is the hidden question?
What is the number sentence?
How did you solve the problem?
What is the answer?
Can you create problems similar to these?

2. Performing the Activity

Group the pupils into five working team. Ask the group to create a problem similar to the one given. They may change the subject and other parts of the problem. Give enough time to perform the task.

3. Processing the Activities

Let the group present and discuss their created problem.
Ask : How did you create a problem similar to the one given?
Expected answers:

- We familiarized the concept on multiplying fractions.
- We thought the type of the problem we wanted to create.
- We read some problems similar to the ones given and suited their solution.

4. Reinforcing the concept and skill

Group the pupils into 3 working teams. Ask the group to create a problem similar to the one below.

Team 1 – Father bought 2 ¾ kg. of mongo.
P35.00 per kg.. How many kg. of mongo did he bought?
Team 2 – Rectangular lot measures 13 5/7m. by 16 1/5 m.
What is the total area of the lot?
Team 3 – A gardener cleans 5 ¾ m per hour. He cleans in 3 ½ hours.
How many meters did he clean?

5. Summarizing the lesson

Summarize the lesson by asking. How do we create problems involving multiplication without or with addition or subtraction of fractions and mixed fractions.

• Familiarize oneself with the concept, and its application in real-life situation. • Think of the type of the problem you want to create. • Read some problems and study their solutions.

6. Applying to the new and other situations

Create problems involving multiplication of fractions without or with addition or subtraction.

a.	b.
2 ¾ meters of yarn at P5.00 1 ½ used for bag.	2 2/5 kilograms of mango harvested in 7 basket 1 ¾ kilograms of mango sold

IV. ASSESSMENT

Create problems involving multiplication of fractions.

1. ¼ hectares of land , 3/5 hectares of it lease.

2. ½ kg. of sugar, 2/5 kg. of sugar of it is sold.

3. Mang Juan - 15 ¼ fish caught, 15 ½ sold.

V. ASSIGNMENT

Remediation

Complete the problem by making question.

1. A box containing 4 2/5 kg. of nails. ¾ was sold.
2. ½ of Perla's allowance of P120.00, ¾ was saved.

Enrichment

Create 3 problems involving multiplication of fractions without or with addition or subtraction.

MATH 6

Ist Quarter
Lesson 8

I. OBJECTIVE

Divides simple fractions and mixed fractions. **(M5NS-Ic-96.2)**

Value Focus: Concern for the members of the family.

II. SUBJECT MATTER

A. Skill: Dividing simple fractions and mixed fractions
B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Guide 2010, pp. 277 - 282
C. Materials: flashcards, activity cards, charts, manila paper bond paper, crayon, strips of newspaper

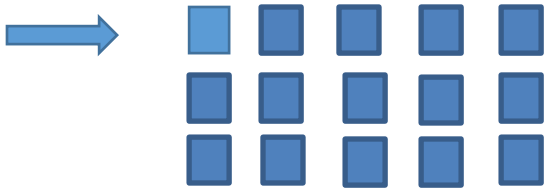
III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill: Concentration of Reciprocals

   Materials – set of flashcards turned face down on the table

   Sample
   3 1/5



   Mechanics:

   1. Divide the class into 4 teams
   2. Each leader pf the teams draws a member. The member of the group who has drawn number 1 is the first to choose 2 cards to open and match. If the cards do not match, he has to turn the cards face down again and gets no score.
   3. The member of the next group who has drawn number 2 follows and so on.
   4. The winner is the team with the highest number of correct answers.

2. Review:
   Checking of assignment.
   Divide a fraction by another fraction

3. Motivation

Who has a favourite pillow? Do you share your pillow with other members of the family? If you do, what trait did you show? How often do you change your pillow case? Why? What kind of cloth is your pillow case made of?

B. Developmental Activities

1. Presentation - Present the lesson through the following
   Use of manipulative in solving problem

Aling Ana has 6 2/5 meters of cloth to sew pillow cases for her sons who love clean and beautiful pillows. She has to decide the measurement of the materials considering the following

a. How many pillow cases each 4/5 of a meter long can she made?
b. How many pillow cases can she make if she will use 1 3/5 meter long for each pillow case?

Answer the following questions:

a. Who will sew pillow cases?
b. For whom will Aling Ana be sewing pillow cases?
c. What materials does mother have?
d. How long is the material for the pillow cases?
e. If you were Ana's mother, will you do the same? Why?

Analyzing the problem

a. What does the problem ask to look for?
b. What are the given data in the problem?
c. What are the needed facts to solve the problem?
d. What will you do to arrive the solution of the problem?

2. Performing the activity

Group the pupils in 5 learning teams. Let them answer the problem.
Step 1. Write the fractional number using division.

How many ¼ kg. of sugar can you repack from 2 1/4 kg?

So, 5 ½ ÷ ¼ = N

Step 2. Find the reciprocal of the divisor. Remember that 2 1/4 is the dividend while ¼ is the divisor. To get the reciprocal of ¼, we think of a number or a fraction that can be multiplied to ¼ so that the product is 1., the answer is 4/1.

¼ x 4/1 = 4/4 =1 Therefore, the reciprocal of ¼ is 4/1.

Step 3. Change the dividend 2 1/4 to improper fraction. Then, multiply the dividend by the reciprocal of the divisor. If possible reduce to lowest term.

2 ¼ ÷ ¼ =

9/4 – 4/1 = 36/4 = 9 (¼ kg. of sugar)

3. Processing the activity

How did you find the activity? What did you do with the divisor? Did you change the operation? What did you do with the mixed fractions? Whole numbers?

Discuss with the pupils how they solved the problem. Provide immediate feedback and remedial measure to those incorrect answers.

4. Reinforcing the concept and skills

Group Work Activity

Find the quotient. Explain the meaning of your answer.

1. 10 ÷5/6 = N
2. 1 1/6 ÷ ¾ = N
3. 5/6 ÷ 2/9 = N
4. 5 1/3 ÷ ¼ = N
5. 3 ¾ ÷ 2 ¼ = N
6. 2 ½ ÷ 1/3
7. 8 ¾ ÷ 3/5
8. 6 ¼ ÷ 2/7
9. 2 ½ ÷ 1/3
10. 1 5/6 ÷ 2/10

5. Summarizing the Lesson

Lead the pupils to give generalization by asking, How do you divide simple fraction and mixed fraction?

To divide fractions, multiply the dividend by the reciprocal of the divisor. To divide fraction by a whole number, express the whole number as a fraction with a denominator of 1. To divide fraction by mixed fraction, change mixed fraction to improper fraction. Use cancellation, multiply the numerators or by using cross multiplication method. Express the answer in lowest possible terms.

6. Applying to New and Other Situations

Divide the following. Reduce your answer to lowest term whenever possible.

1. 5/1/3 ÷ 1 1/5 =
2. 2 2/4 ÷ 9/10 =
3. 4 ¾ ÷ 2 =
4. 7/6 ÷ 7/12 =
5. 4 ÷ 2 1/5 =

IV. ASSESSMENT

Find the quotient. Simplify your answer.

1. 6/8 ÷ 3/16 =
2. 3 ¾ ÷ 3 6/8 =
3. 1 5/8 ÷ 7/8 =
4. 5 6/8 ÷ 2 ¼ =
5. 8 ÷ 1 ¼ =

V. ASSIGNMENT

Remediation

Find the quotient. Reduce to lowest term.

1. 5 ½ ÷ 11/16
2. 9 3/8 ÷ 3 ¾ =
3. 9 1/5 ÷ 2 6/15
4. 9/4 ÷ 1 4/5 =
5. 10 ÷ 2 5/8 =

Enrichment

Solve the following:

1. How many 2 ¼ m can be found in a 40 ½ m?
2. Into how many ¾ of a meter can be cut from 9 ¾ meter of ribbon?
3. Ramon has 15 ¾ cassava cakes. If each serving is 2 ¼ cakes, how many servings does she has?
4. How many 1/5 hour is in ¾ hour?
5. How many 8 3/7 are there in 21?

MATH 6

1st Quarter

(Lesson 9)

I. OBJECTIVE/S

Solves routine and non routine problems involving division without or with any of the other operations of fraction using appropriate solving strategies and tools.

Value Focus: Sharing of ones blessings

II. SUBJECT MATTER

A. Skill: Solving routine and non routine problem involving division of fraction using appropriate strategies.

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 `

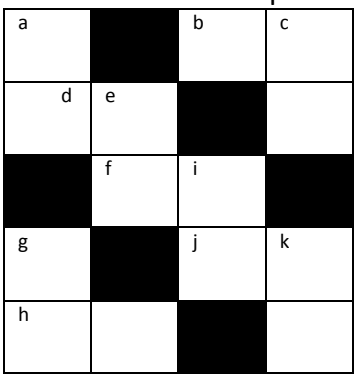
C. Materials: flash cards, activity cards, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Mental Computation

   Answer the number puzzle



Across	Down
b) ¼ n = 6	a) 3/7 of 147
d) what is ½ of 62	c) prime number between 41 and 45
f) 90 less than 6	e) ten more than 8
h) the product of 9 and 7	g) What is 4 multiplied by itself
j) 3 more than 50	i) ½ of right angle
	k) 0 how many ¼ in 9?

Answer key

6		2	4
3	1		3
	8	4	
1		5	3
6	3		6

2. Review
   A) Checking of Assignments
   B) Use your show me Board , Give the answers to the problems I will flash : Sample
      1. A number divided by ½ is equal to 5 ? (2 ½)
      2. A number multiplied by ½ is equal to 10?(20)
      3. A number divided bhh by ¾ isa equal to 2 ½ (1 7/8)
      4. A number divided by 2/3 is 9 (6)

3. Motivation

   Before presenting the word problem, discuss with the pupils the value of sharing or kindness. Ask, How many of them practice this trait, and what things they usually share with others.

B. Developmental Activities

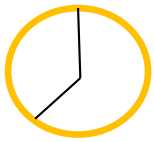
1. Presentation

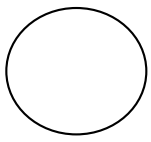
   Present the problem below for class discussion and Analysis

   Eric has 2/3 of a pizza. He wants to cut it into equal parts such that each slice is 1/6 of a whole pizza. How many slices of pizza can he get

   A. Strategy 1 Visualizing the problem

   1. Lead the pupils in analyzing the problem
   2. Have them identify
      a. What is asked?
      b. What facts are given?
      c. What process is needed to solve the problem?
   3. Ask the pupils to translate the word problem into a number sentence
      2/3 ÷ 1/6 = _____





   B. Strategy 2 Group Activity

   1) Organize the class in groups of 5 or make use of the LB (Learning Barkadas) Provide each LB a copy of the problem to be solved.
      Sample problems

a. Three chocolate bars are shared among some children. Each child gets ¾ of a chocolate bar. How many children are there?
b. Alma and her classmate are making graduation ribbons How many 9/10 dm ribbons long can be made from a spool of 53 ¾ dm long

Group Reporting

1. Let the LB take turns in presenting their work on the board
2. Encourage interaction by asking :
   a. Do you agree with the solution?
   b. Are there alternative solution?
   c. Is the answer reasonable?
   d. How can you check it?

2. Fixing Skills

1. Louie drinks 2/3 liter of milk each day. How long will he finish drinking 5 liters of milk?
2. Eiko bought 4/5 of a cake to school. She divided it equally and shared all of it to her 3 friends. How much cake did each friend receive?
3. Bing Bing bought 4 ½ kg of chicken for 3 recipes that she prepared. If she used the same amount of chicken per recipe, how much chicken did each recipe contain?
4. Daniel has 2 ½ of a honeydew. He wants to cut it into equal pieces such that each pieces is 1/8 of honeydew. How many pieces if honeydew can he get?

3. Summarizing the Lesson

Lead the pupils to give the following generalization by asking:
How do we analyze word problems involving division of fraction?
What steps do we follow in solving the problem involving division of fraction?

C. Application

Solve each problem

1. A Garden hose is leaking 1 liter of water every 3/34 hour. How many liters of water will it leak in 3 ¾ hours
2. Lucy equally poured 4/5 liter of lemonade into 6 cups. How much lemonade did each cup have?

IV. ASSSESSMENT

Solve the following problem

1. A car travels 11 ½ km for every liter of gasoline. How many liters of gasoline are needed for a 46 km trip?
2. How many pieces of string 5 /6 dm long each an be cut rm 3 2/3 dm
3. Glen spent 2/5 of an hour solving 8 math problems. What fraction of an hour did he spend solving each problem?
4. Jeanette put 1 ½ slices of cheese for every sandwich that she made. How many sandwiches did she make out of 12 slices of cheese.

5. Rosie used 12 4/5 m of clothing material to make 8 pillowcases. How much material did she use for each pillowcase?

V. ASSIGNMENT

Solve the problem

Sam has 4 2/5 of a cake at a party. he wants to distribute the cakes such that each gets 1 1/6 of a whole cake . How many children can he distribute the cake to
How many one- tenths are there in all?
How many three – tenths are there in 3/5?

MATH 6

1st Quarter
(Lesson 10)

I. OBJECTIVE/S

- Creates problem (with reasonable answers) involving division without or with any of the other operations of fractions and mixed fraction. **(M6NS-Ic-97.2)**

Value Focus: Use resources wisely

II. SUBJECT MATTER

A. Skill: Creating problem (with reasonable answers) involving division without or with any of the other operations of fraction and mixed fraction.

B. Reference: K to 12 Grade 6 Curriculum Guide , Lesson Guide Math 6 2010 pp.286-289, Soaring 21st Century Mathematics 6 pp 99-101

C. Materials: flash cards, activity cards, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Mental Computation
   Game : Who are We
   *Form 4 teams with equal members
   *Teacher flashes cards
   The reciprocal of the sum of (3/4and 2/4)
   2/3 X 2/6
   5/6 ÷2/3
   I am a 2-number. Give a fraction name

   - The first pupil tries to answer the questions or condition flashed > each members takes turn to satisfy the condition. When all members of the team have answered at the given time, answers are checked after 2 or 3 rounds. The team with the most correct answers is declared as winner.

2. Review
   - Check up of Assignment
   - Review the steps in solving the problem
     Ask: What are the steps in solving problems
   - In what steps will the following questions fall
     What is asked?
     What are the given facts?
     What is the process to be used?

What is the number sentence?

3. Motivation
   Show some pictures
   Ask the pupils to create a word problem using the pictures with the given information

B. Developmental Activities

Presentation

Ask the pupils to read the sentences written on the strips

Jose has 20 kg of sugar in bags	The 20 kgs. of sugar that contain 1/2 kg per bag	How many bags will he need to pack the rice?

2. Performing the Activities

Let the pupils arrange the sentences to form a word problem by pairs.
Give the pupils an ample time to work on the activity
Expected answer

Jose has to pack 20 kg of sugar in bags that contain 1/2 kg per bag. How many bags will he need to pack the sugar.

Ask; do you agree that this is the correct arrangement? Why? Is there any other arrangement? Does your work make sense>

Say, Now let us solve the problem. Do it with your partners.
Let the pupils work on the problem and ask someone to show her /his solution:
Illustration

Solution

20 kg ÷ ½ 20 x 2 /1 = 40 bags

How did Jose pack the sugar? Is he right? How do we use our resources? Why?

4. Processing the activities

- Do you agree with the answer? Why?
- How did you do it?
- How do you know that a problem has the complete information?
- Can the problem be solved if there is a missing fact /information?
  So, what are the things needed to create a complete word problem?

5. Reinforcing the Concepts and Skills
   Group Activity
   Divide the class into five. Let them choose a leader and a secretary. Give each group an activity card with data to be used for creating a problem. Then let each group posts its work on the board.

   The leader will report to the class the word problem they have created and the solution to answer it.

Activity card 1 6 2/3 pails of rain water , 3 big container

   Teacher's cue: when the water poured equally into the big containers .How many pails of water does it need?

Activity card 2 3 ½ grapes , set aside 2 kgs , 4 children

   Teacher's cue if the 4 children shared equally the grapes after setting aside 2 kgs. How many kgs did they get?

3/5 liter of oranges 4/5 liter of lemonade , 6 cups

   Note; Add more

6. Summarizing the Lesson

   Lead the pupils to generalize

   Ask: How do you create a word problem involving division or with any other operations of fractions and whole number?

To create a word problem :

1. Be familiar with the concepts in Math
2. Think of the type of problem to be created
3. Read some examples of word problem and study their solutions

To check if the answer to the problem you have created and solved is correct.

1. All the given data needed to solve the problem should be there
2. The answer must be the answer to what is asked and must be reasonable.

7. Applying To New and Other Situations

Divide the class into groups. Give each group some data to make a problem. Let each group some data to make a problem. Let each group write their answers in a manila paper. Have them report their work afterwards

Sample data:

During good season , fisherman from Palompon catch 199 3/8 kg of fish During lean season they catch only 39 7/8kg If they are going to sell 32 vendors in Palompon wet market and 10 ventors in supermarket,.

IV. ASSESSMENT

Create a problem using the data below

Actvity 1

Mr Jose Abad has 12 5/6 farm land To plant with 7 different crops

Activity 2

Rene bought 9 pizza . each pizza slice into 8 parts …Pedro eats ½ of the whole cake

Activity 3

Carlo gathered 15 2/5 baskets of thong shells, jose gathered 8 ½ baskets….. they gave 4 1/3 baskets to their camp leader …and sold the shells to 4 buyers.

V. ASSIGNMENT

Remediation

A. Create a word problem by completing the data needed.
1. Criistine bought _____ eggs and shared to _____ children for their EPP Demo Lesson. How many eggs each received.
Solution And Answer
2. How many volleyball teams of _____ each can be formed from _____
Solution and Answer: _____
Study the story problem below, complete the problem by creating a question for what is asked, then solved the problem.

Tony spent 1 ½ hours exercising at the gym last week. Everytime he was at the gym .he stayed ¾ hour. How many times did he go to the gym.

MATH 6

Ist Quarter

(Lesson 11)

I. OBJECTIVE

Solves one or more steps routine and non routine problems involving addition and/or subtraction of decimal and mixed decimals using appropriate problem solving strategies and tools. **(M6NS- Id-108.2)**

Value Focus: Health is Wealth

II. SUBJECT MATTER

A. SKILL : Solving 1 or more steps routine and non routine problems involving addition and/or subtraction of decimal and mixed decimals using appropriate problem solving strategies and tools.

B. REFERENCES: K-12 Grade 6 Curriculum Guide , RBEC Grade 6 Lesson Plan pp 68-70 , Math For Life pp 112=113, 21st Math 6 pp 63 -65

C. Material : Flashcards, Activity cards, charts

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Mental Computation: Adding and Subtracting Decimal
   a. Divide the class into 6 groups (per column)
   b. Call on one student from each group to stay in between the aisle at the back of the classroom
   c. Teacher flashes an addition or subtraction equation on decimals.
   d. The student at back solve mentally for the sum or difference. The first to say the correct answer makes one step forward
   e. Repeat c and d
   f. The first to reach the platform in front gets 5 points for his group.
   g. Repeat for another round of student contestants

   Sample Equation

4.8	10- 2.8	0.564 – 231	34.24
+ 2.75			+ 2.03

2. Review
   * Checking of Assignment
   * Recall the steps in Solving Problem
   Ask: What are the steps in solving Problem

3. Motivation (show picture of a boy walking/jogging) Ask: What they do? And Why? Is it right? (Let the pupil share their experiences

Richard and Manny joined a walkthon to raise fund for a charitable organization . In six minutes . Richard walked 0.4605km. , while Manny walked 0.4817 km. Who walked more distance between the two and by how much more?

B. Developmental Activity

1. Presentation (Call a model pupil to read the problem)
   Ask: What is asked in the problem?
   What are the given facts?
   What are the cue words?
   What operation to be used?
   Ask a pupil to write the number sentence and show his/her solution
   Expected Responses:
   Richard = 0.4605 Manny = 0.4817
   0.4817 > 0.4605 , so Manny walked farther than Richard
   To find how much more distance Manny walked than Richard did we have to subtract

   0.4817
   -- 0.4605
   0.0212 Km.

   Value Integration: Elicit from the pupil the value of daily exercises like walking, jogging , playing outdoor games " Health Is Wealth"

2. Performing Activity
   The pupils will form 5 groups and will be given an activity cards (word problems)
   They are going to solve the problem (each group select their reporter and recorder)
   They are asked to solve the problem and the reporter will show the whole class how they do their task.
   Sample Activity Card

   Manny had a long copper wire from which he cut two pieces. One piece was 0.832 m and the other was 1.35m . After cutting the two pieces, there was 3.9 m copper wire left. What is the length of the wire at the start?

Kristine used yellow and green ribbons t wrap a gift for May. The yellow ribbon was 0.35 m shorter than the green ribbon. If the green ribbon was 0.745m, how many meters of ribbon did she use altogether
Randy walked to his cousin‘s house which was 1.098 km away from there he walked some more to the market. If he walked a total distance of 2.5 km, how far was his cousin’s house from the market?

3. Processing the Activity
   Have each group analyze their problem
   Let them answer the questions
   - What is asked?
   - What are given
   - What operation to be used
   - Write the number sentence then solution.

   (Discuss pupils work to the whole class and let the group defend their answer and solution)

4. Fixing Skills
   Solve the following problem by pair
   *Tony paid P 630. 80 for sando, a shirt and a pair of pants. The shirt costs P45more than the sando. The pair of pants cost P93.80 more than the shirt, Find the total cost of the pair of each 3 items>
   * Luz wants to buy a bag costs P 375.95 If she saves P148.50 for it. How much more does she need?
   *Martha bought 2.5 m of yellow ribbon, 3.4 m of red ribbon, 8.75 m of white ribbon and 1.7862 blue ribbon. How many meters of ribbon did she buy altogether.

5. Summarizing the Lesson

   Lead the pupil to give the following generalization by asking, how do we analyze word problems involving addition or subtraction of decimals number?
   What steps do we follow in solving problem?

6. Application
   Solve the problem
   Study the following menu in the canteen and answer the question.
   MENU

Spaghetti	35.00	Gulaman	10.00
Bihon	25.00	Fruit salad	20.00
Champorado	15.00	Pinakbet	15.00
Lugaw	15.00	Utan las ay	15.00

Egg sandwich	20.00	Fried Chicken	30.00

1. Abeth gave the cashier P 100 bill, she ordered spaghetti and fruit salad, how much change will she receive?
2. Allan ordered egg sandwich, gulaman, and fried chicken? How much will he pay?
3. A group of children ordered, champorado, lugaw, gulaman, bihon. Fruit salad and fried chicken, since it was Cora's birthday, she volunteered to pay for their order, If Cora gave P 500 to the cashier , Is it enough for their order , Why .. How much is her change?

IV. ASSESSMENT

Use the chart to solve the problem

Items	Cost
Dress	PHP 435.95
T- shirt	299.50
Blouse	195.75
Skirt	335.50
Pajama	210.25
Pair of socks	86.50

1. Rita bought a pair of socks, skirt and t shirts . How much did she spend?
2. Adrian has P800 .00 .Which should he buy to have more money left , a dress and a t shirt or a combination of a skirt and a pajama_____
3. Yam Yan wants to buy a new pair of socks and T shirt, how much money he needs to get the stuffs?_____
4. Milante is planning to buy something for her mother but she has only P200.00 which item can she afford?_____
5. Daisy has P750.00 .She bought two blouses and skirt. How much change will she get?

V. ASSIGNMENT

Solve the following problem using appropriate strategies.

a. Martha want to buy a notebook for P18.75 and a ballpen for P28.75 . She had onlyP19.85, how much more does she needs to buy the two item?
b. Barangay Maligaya is 28.5 km from the town proper in proper in going there, Ricardo trained 12.25 km. by jeep .8.5 km by tricycle and the rest is hiking , How many kilometers did Ricardo hike?
c. Susan bought 13.5 meters of pink silk cloth and 8.6 meters of blue silk cloth, How many meters of cloth did Susan bought?

MATH 6

1st Quarter

(Lesson 12)

I. OBJECTIVE

Adds and Subtracts decimals and mixed decimals through ten thousandths without or with regrouping. **(M6NS – Id – 106.2)**

Value Focus: Honesty

II. SUBJECT MATTER

Skill: Adding and subtracting decimals and mixed decimals through ten thousandths without or with regrouping

Reference: K to 12 Grade 6 Curriculum Guide, Lesson Guide Math 6 2010 pp. 60- 63, Soaring 21st Century Mathematics 6 pp 57 – 60, Math for life 6 pp 78-84.

Materials: flash cards, activity cards, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

(Flash cards) – mental computation

Give the sum/difference of the following

7654	2.	8230	3. 9417	
+ 3542	.	- 3756	+ 32 60	

Review: Mental Computation Drill (Flash cards) on Adding /Subtracting D Decimals through thousandths without regrouping;

Teacher divides the class into 6 groups (per column)

Teacher flashes an equation say: 3.56 + 32.65

The first student in each group solves mentally the given equation,

The first one to give the correct answer orally gets 1 point for his/her group

Continue this until everyone in each group has participated in

The group with the highest number of points wins

Sample equation: (May be given vertically or horizontally)

a. 65. 876	b. 23. 56	c. 0.8761	d. 34. 1254
+ 8.782	- 11. 34	- 0. 5323	+ 1.0342

B. Developmental Activities

1. Presentation

   Present the lesson through the following

   Strategy!

   Tina went shopping, She bought a pair of sandals for 85.3452 and a pair of socks for 32.95 . How much did she spend in all? how much change did she get from 500.00

   Discussion:

   Analyze the problem

   What is asked?

   What are given?

   What is the number sentence

   Call a volunteer pupil to write his/her number sentence, the let him/her solve, using his/her solution

85.3452
32.95 } Digits are arranged according to its place value
118.2952. ← → Total amount they spent for a pair of sandals and socks

Discuss, how to get amount of change. Ask a volunteer pupils to show the process.

Expected Solution:

500.00 → decimal points are aligned
118. 2952
381. 7048 Difference or the amount of change

Therefore, Tina received 381.2952

Values Integration: Elicit from the pupil the value of honesty ….
in doing their task

2. Pair Activity

One day Debbie, Linda 's younger sister needed 4 pieces of ribbon for her project .Linda gave her yellow ,pink, blue and red ribbons with length 0.0035, 0.0543, 0.0675, 0.0097 respectively .

How long are the yellow and blue ribbons if put together?

Discussion

- Analyze the problem
- Identify the length of the yellow and blue ribbons
- Let the pupils find the sum using strips of paper
- To show : 0.0035 + 0.0675 = N
  Let each pair do the task.

3. Fixing Skills
Working by Station

a. Group pupils into 4
b. Assign each group their base then solve/do what is asked in each base
c. After 5 minutes each group will transfer to the next base until all group have reached all the bases.
d. Each group will then present their work to the whole class.

Base I

Give the sum	
1. 0.9564 + 0.9876	3. 0.7865 + 0.3456
2. 23.0567 + 31.0876	4. 84 . 0897 + 23.3456

Base 2

Give the Difference

1. 0.4352 - 0.2134 2. 43.0987 - 9.0984
2. 0.987 – 0.0067 4. 76.9876 – 32.976

Base 3

Do what is asked for

1. (0.987 + 0.8765) – 0543 -= N
2. (564.097 – 56.0876) + 21.00987= N
3. (87.9805 -34.5462) +32.0087 = N
4. (45.008 +32.3045) + 21.654= N

4. Summarizing the Lesson

Lead the pupils to generalize

How do we add or subtract decimals or mixed decimal through ten thousandths?

Decimals are added and subtracted in the same way as a whole numbers.

When two decimals are added together or subtracted from each other, the decimal points must be vertically aligned and the digits written in the correct value column.

5. Applying to New and Other Situation
Perform the indicated Operation

1. (4.0745 + 2.367)- 9.0067 2. (38.0045 + 15.096) – (12.099+ 3.097)
3. (48.95-35.9870) + 3.075 4. (23.0978 -5.0786) + 31.4507

IV. ASSESSMENT

Solve for the missing number

1. ☐ + 0.6754 = 9675 2. 34. 5634 - ☐ = 12.2307
2. 12.098 - 9.0987 = ☐ 4. 56.2308 + 10.098 = ☐
6. ☐ - 0.5608 = 1.0065

V. ASSIGNMENT

Remediation

Add or Subtract

1. 0.067 + 0345= 2. 56.8766- 13.007 3. 123. 09 – 3. 0967

Write the number sentence then solve

1. Subtract 0.6785 from 2.09
2. Add 0.1354 to the sum of 1.0987 and 23,76
3. Add 6.0967 to the difference of .085645 and 0.4534

MATH 6

1st Quarter

(Lesson 13)

I. OBJECTIVE

- Creates problems (with reasonable answers) involving addition and/or subtraction of decimals and mixed forms **(M6NS-Id-109.2)**

Value Focus: Accepting social responsibilities

II. SUBJECT MATTER

A. Skill: Creating problems (with reasonable answers) involving addition and/or subtraction of decimals and mixed forms

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 20, pp. 82-84

C. Materials: flash cards, sentence strips, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

Add or subtract the following mentally.

1. $8.4 + 1.2$ = ____
2. $9.2 + 0.8$ = ____
3. $1.85 + 0$ = ____
4. $3.84 + 0.09 + 8.23$ = ____
5. $3.6 - 2.1$ = ____
6. $89 - 84.25$ = ____
7. $8.45 - 5.23$ = ____
8. $9.15 - 3.84$ = ____

2. Review

Review the steps in solving word problems.

Ask: What did you understand about the following important guide questions to solve problems?

1. What is asked in the problem?
2. What are the given facts?
3. What is/are the clue words?

4. What operations will be used?
5. What is the number sentence?
6. Is the solution correct?

3. Motivation

Ask: What can you say about the picture?
What are the children doing?
Why is it important to do such activity?
What do you think will happen if we don't clean and unclog our canals?
Can you site other ways to maintain cleanliness in school? community?

B. Developmental Activities

1. Presentation

Post the jumbled word problems written in strips on the board. Ask the children to read them.

They bought 100 pieces of bread for ₱175.58 and 100 packs of juice for ₱278.85.

How much change did they receive?

The YES-O Officers of San Vicente Elementary School were preparing snacks for the pupils who participated in the Canal Clean-up Drive in their school.

If their adviser gave them ₱500.00 to buy the snacks.

2. Performing Activities

Say: The sentences you have read is a word problem.

Ask: Can you understand the problem? Why?
Can you arrange the sentences to make it more understandable?
Can you do it with a partner?

Expected Answer:

> The YES-O Officers of San Vicente Elementary School were preparing snacks for the pupils who participated in the Canal Clean-up Drive in their school. They bought 100 pieces of bread for ₱175. 58 and 100 packs of juice for ₱278.85. If their adviser gave them ₱500.00 to buy the snacks. How much change did they receive?

Ask: Did you get the same answer? Are there any other arrangement?
Does your work make sense?

Say: Now let us solve the problem. Do it with your pair. Give the pupils ample time to work on the problem and then ask for a volunteer to show his solution on the board.

Solution:

111 1	499 99
Step 1: ₱175. 58	Step 2: ~~₱500. 00~~
+ ~~₱278. 85~~	- ~~₱454. 43~~
~~₱454. 43~~	~~₱~~ 45. 57

Answer: P45.57 is the change received.

3. Processing the Activities:

Ask: Did you get the correct answer?

Looking back at our first activity, how did you arrange the jumbled sentences to form the word problem? Do you think of some parts or formats? Can you share it to the class? How do you know that the problem has complete information? Can the problem be solved if there are missing facts/information? So, what are the things needed to create a problem?

Say: In creating word problems, we need to master the concepts of adding and subtracting decimals and familiarize the steps in solving word problems. We think of some activities in our daily lives like spending your allowance for snacks, buying in the store or sharing your collections to your friends in thinking the type of problem you want to create. Always bear in mind that in creating word problems all facts or information needed should be given so that it can be solved accurately.

4. Reinforcing the concept and skill

Group Activity: Divide the class into four groups. Let them choose a leader, a secretary and a reporter. Give each group an activity card with the data to be used for creating a word problem. Then let each group post their work on the board. The reporter will report to the class the word problem they have created together with its solution and answer.

Activity Card 1

- Mila has 45.75 meters of ribbon.
- Mila cut it and gave her best friend Ann 22.875 meters and 11.44 meters of ribbon for Bridget.
- Number of meters of ribbon left to Mila.

Activity Card 2

- Gina bought some food in the school canteen.
- Burger – ₱35.50
- Soft drinks - ₱13.75
- Fries – ₱30.00
- Gina's money – ₱85.00
- Change Gina received

Activity Card 3

- Patrick bought a pentel pen for ₱32.75.
- He also bought some cartolina for ₱86.25.
- Amount of money Patrick pay for pentel pen and cartolina

Activity Card 4

- Mr. Reyes has ₱1,500.00
- He spent ₱1020.45 in buying shirt and pants.
- Amount of money Mr. Reyes has left

5. Summarizing the lesson

Lead the pupils to generalize the following:

To create a word problem remember the following:

- Be familiar with the concepts/steps in solving word problems.
- Think of real life situations in forming word problem and decide the type of word problem you want to create.
- All the needed data and information must be given.
- The answer of the word problem must be correct and reasonable.

6. Applying to new and other situation

Based on the given data, create a problem and solve for the correct answer.

- Cris kept track of the number of kilometers he drove as a taxi driver

Days of the Week	Distance Cris Drove
Monday	365.7
Tuesday	149.35
Wednesday	296.5
Thursday	213.86

IV. Assessment:

Using the data below, create a word problem involving addition and subtraction of decimals.

1. A pole was cut into two parts after the strong typhoon.
   - Height of the pole is 25.75 meters
   - First part measured 12.05 meters
   - Measure of the remaining part

2. Mrs. Montero paid the following school fees upon enrolment:
   - Tuition Fee – ₱1345.27
   - Books - ₱4983.35
   - Mrs. Montero has ₱5000.00 in her wallet
   - Amount of money needed to pay the school fees

V. Assignment

Remediation

Arrange the jumbled word problem to create a word problem and solve for the answer.

- An order of orange juice is ₱15.75
- How much is her change?
- A plate of pansit bihon is ₱20.00
- Letty gave the cashier ₱50.00

Enrichment:

Using the data below, create a two-step word problem involving addition and subtraction of decimals.

Items	Prices
Notebook	₱30.65
Pad Paper	₱32.85
Ballpen	₱15.75
Pencil	₱8.25
Short Folder	₱12.50

MATH 6

1st Quarter

(Lesson 14)

I. OBJECTIVE

- Multiplies decimals and mixed decimals with factors up to 2 decimal places **(M6NS-Ie-111.3)**

Value Focus: Appreciate the beauty of nature

II. SUBJECT MATTER

A. Skill: Multiplying decimals and mixed decimals with factors up to 2 decimal places

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 20, pp. 96-103

C. Materials:

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

Divide the class into two groups. Group 1 will be represented by the girls and Group 2 will be represented by the boys. The two groups will compete in multiplying the basic multiplication facts. Each group will choose a contestant who will stand at the back. The teacher will flash cards. The fastest player who gives the accurate answer will take a step. This procedure will be repeated until a player reaches the finish line and the teacher will give credit points to the winning group. The group with the most number of points will be declared as the winner.

Examples:

9 x 8	12 x 4	30 x 2	11 x 5

2. Review

Find the product.

1.) 32 X 3 = N

2.) 143 X 7 = N

3.) 47 X 14

4.) 249 X 36

5.) 96 X 5

3. Motivation

Have you been to a farm? Take a look at this pictures.

Pineapple Plantation
(Brgy. Hibunawon & Alta Vista)

(Source: DCLM IX.A.8)

Sugarcane Farm

(Source: DCLM IX.A.9)

1. Describe the pictures you have seen?
2. What makes it beautiful?
3. Do you want to own a farm too in the near future? Why
4. How will you take good care of it?

(Teacher will infuse in the discussion the value of appreciation of beauty of nature)

B. Developmental Activities

1. Presentation

Mr. Tero and other farmers were harvesting tomatoes for the town's Tiangge Day. They were able to fill 8.75 kaings each weighing 6.51 kilograms. How many kilograms of tomatoes were harvested for the Tiangge Day?

a. What is being asked in the problem?
b. What are given?
c. What operation is needed to solve the problem?
d. What is the number sentence?

2. Performing the activities

Discuss the step by step solution to the problem

8.75 ← 2 decimal places
X
6.50 ← 2 decimal places
0 00
437 5
5250
56.8750 or ← 4 decimal places
56. 875

Follow these steps:

a. Multiply as in whole numbers.
b. Write the decimal point in the product the same number of places to the left as the sum of the number of decimal places in both factors.
c. Annex zeros to the left to complete the number of places.
d. Drop the zeros after the last nonzero digit to the right of decimal point.

Do these items in pairs.

1.) 0.45 X 0. 08 = _____ 2.) 0.78 X 6 = _____ 3.) 2.09 X 3.17 = _____

3. Processing the activities

Give pupils ample to solve for the product of decimals in pairs. After everybody is done with the activity ask somebody to present his solution on the board and check the answers. Give immediate action on the pupils that got the wrong answer in a respectful manner.

Encourage the pupils to ask questions to clarify confusions. Infuse in their minds that there is nothing to be afraid of and there is nothing wrong in asking questions.

4. Reinforcing the Concepts and Skills

Group Activity: Divide the class into 3 groups. Each group is designated to certain station in the classroom and will work cooperatively to find the products of decimals. Provide the groups ample time to answer the activity. After the bell rings, the groups will transfer to another station and do the activity. The procedure will continue until the three groups finish answering the three stations.

STATION 1: Multiplying Decimals with Whole Numbers

Find the product of decimals and whole numbers.	
1.) 0.78 X 6	4.) 39 X 0.41
2.) 0. 29 X 42	5.) 3.45 X 48
3.) 4 X 0.67	

STATION 2: Multiplying Hundredths

Find the product of decimals.	
1.) 0.59 X 0.04	4.) 0.86 X 0.09
2.) 0.86 X 0.57	5.) 0.73 X 0.45
3.) 0.94 X 0.27	

STATION 3: Multiplying Mixed Decimals with Hundredths

Find the product of decimals.	
1.) 7.95 X 8. 42	4.) 6.23 X 3.95
2.) 42.53 X 1.73	5.) 13.56 X 9.08
3.) 3.04 X 2.16	

5. Summarizing the Lesson

Lead the pupils to generalize by asking, how do we multiply decimals with factors up to 2 decimal places?

> In multiplying decimals with factors up to 2 decimal places, multiply like multiplying whole numbers. Place the decimal point in the product the same number of places to the left as the sum of the number of decimal places in both factors. Annex zeros to the left to complete the number of places.

6. Applying to new and other situations.

Read and analyze the problem and solve for the correct answer.

1. Find the cost of 7.5 meters of cloth at ₱67.45 a meter.
2. Mangoes cost ₱65.50 a kilogram. How much will 8.5 kilograms cost?
3. What is the area of a rectangle with a length of 9.75 cm and a width of 6.36 cm?

C. Assessment

Find the products.
1.) 25 X 0.26
2.) 0.49 X 0.87
3.) 0.12 X 0.04
4.) 2.09 X 3.17
5.) 29.74 X 7.3

D. Assignment

Remediation

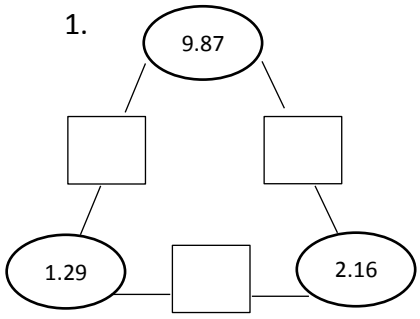
Find the products. Write in column.

1.) 6.5 X 0.7	3.) 9.12 X 0.11	5.) 23.04 X 5
2.) 0.8 X 0.6	4.) 9.12 X 0.11	

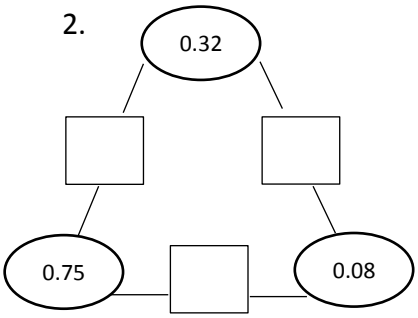
Enrichment

Arithmagon is a kind of number puzzle. In these arithmagons, the number in each square is the product of the numbers in the circles on either side of the square. Complete each arithmagon.

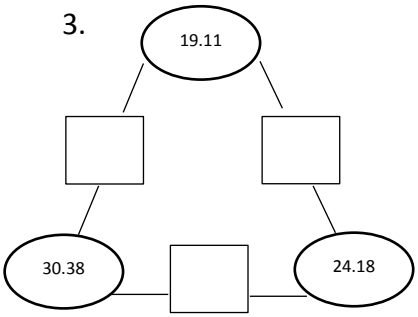
1.



2.



3.



MATH 6

1st Quarter

(Lesson 15)

I. OBJECTIVE

Multiplies mentally decimals up to 2 decimal places by 0.1, 0.01, 10 and 100 **(M6NS-Ie-111.4)**

Value Focus: Kindness/Generosity

II. SUBJECT MATTER

A. Skill: Multiplying mentally decimals up to 2 decimal places by 0.1, 0.01, 10 and 100

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 26, pp. 104-107, XL Excelling in Mathematics pp. 56-59

C. Materials: flash cards, spinning wheel, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

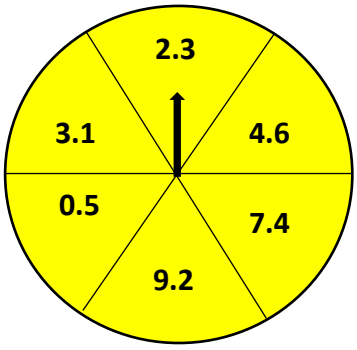
1. Drill

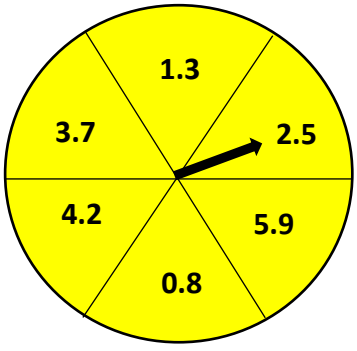
Give the products mentally.

1.) 23 X 10
2.) 4 X 100
3.) 48 X 10
4.) 235 X 10
5.) 167 X 100

2. Review

Find the product of the following decimals using the two spinning wheels.





Example: 2.3 X 2.5 = N

3. Motivation

Handout number puzzles to each group. (Number puzzles are number cards cut into pieces to create puzzle pieces.) Tell each group to complete the

puzzles. (The numbers to be formed are powers of 10 e.g. $10^{2,}$ 10^{-1}, etc.) Tell the groups to paste the pieces on a piece of paper or tape them together. Post their work on the board in an organized way.

Ask if they could identify the numbers they formed. Give a hint that the exponents indicate the number of decimal places to the left or right of 1. Have a free guess and check activity as well as an open discussion on their answers.

Sample answers:

$10^2 = 100$ $10^{-1} = 0.1$

$10^3 = 1000$ $10^{-2} = 0.01$

B. Developmental Activities

1. Presentation

Present these problems:

> Mrs. Santos owns 0.9 hectares of land. She plans to make 0.1 of the land into a residential lot by putting up an apartment. She asked her tenant, Elen, to manage the said apartment. Since Elen is a trustworthy and loyal tenant, Mrs. Santos decided to give Elen 0.01 of the 0.9 hectares of land, near the apartment lots. How big will be the lot given to Ellen? How many square meters of land will be converted to residential lots?

How many square meters of land does Mrs. Santos has?

Which do you think get bigger part of the land, land given to Elen or land to be converted to residential lot?

Why did Mrs. Santos give Elen a part of her land?

(Teacher infuse the value of kindness and generosity to the pupils.)

> Allan wants to buy stickers. If each sticker costs ₱1.85, how much would he pay for 10 stickers? 100 stickers?

What did you observe with the two problems?

What makes the two different?

How are we going to solve the problems? What operation are we going to use?

2. Performing the activity

Let the pupils Study the chart below.

Chart A.

Hectare	**X 0.1**	**X 0.01**
0.9	0. 09	0.009

Compare the number of decimal places in each product with the sum of the number of decimal places in the factors.

To what place is the decimal point moved when multiplying by 0.1? 0.01?

What do you notice with the products? Can you see a pattern?

Teacher lead the pupils to learn that in multiplying decimal by 0.1, or 0.01, move the decimal point in other factor the same number of places to the left as the number of decimal places in 0.1 and 0.01. The resulting number is the product.

Let us work on this examples:

	X 0.1	**X 0.01**
1.) 0.2		
2.) 0.34		
3.) 8.26		
4.) 408.05		

Chart B.

Cost of Sticker	**X 10**	**X 100**
₱1.85	₱18.50	₱185.00

Compare the number of zeros in the product with the number of zeros in the multiplier.

How many places is the decimal point moved to the right?

Using the pattern above what could be an easier to multiply by a power of 10?

Teacher leads the pupils to learn that in multiplying a decimal by a power of 10, move the decimal point in the decimal factor the same number of places to the right as the number of zeros in the factor which is a power of 10. Annex zeros when necessary to complete the number of decimals.

Let us work on these examples:

	X 10	**X 100**
1.) 16.23		
2.) 1.365		
3.) 25.08		
4.) 0.123		

3. Processing the activity:

After all examples have been answered, ask how did they find the activity?

How did YOU multiply decimals by 0.1, 0.01? How does the product compare with the factors?

How did they multiply decimals by 10 or 100? What is meant by moving the decimal point of a number one place to the right? Two places to the right?

Expected answers:

- In multiplying decimal by 0.1, or 0.01, move the decimal point in other factor the same number of places to the left as the number of decimal places in 0.1 and 0.01. The resulting number is the product.
- In multiplying a decimal by a power of 10, move the decimal point in the decimal factor the same number of places to the right as the number of zeros in the factor which is a power of 10. Annex zeros when necessary to complete the number of decimals.

4. Reinforcing the concept and skill

A. Multiply.

1.) 0.07	2.) 0.732	3.) 13.87	4.) 280.04	5.) 4.26
X 0.1	X 0.1	X 0.01	X 0.01	X 0.01
_____	_____	_____	_____	_____

B. Put the decimal point in the correct place in each product. Drop the zeros when necessary.

1.	2.	3.	4.
0.65	6.83	56.13	82.59
X 10	X 100	X 10	X 100
650	68300	56130	825900

C. Multiply.

1. 0.75 X 10
2. 6.12 X 100
3. 53.8 X 10
4. 4.7 X 10
5. 925.18 X 100

5. Summarizing the lesson

Lead the pupils to give the following generalization by asking:
How do we multiply decimals by 0.1, 0.01, 10, or 100?

- In multiplying decimal by 0.1, or 0.01, move the decimal point in other factor the same number of places to the left as the number of decimal places in 0.1 and 0.01. The resulting number is the product.
- In multiplying a decimal by a power of 10, move the decimal point in the decimal factor the same number of places to the right as the number of zeros in the factor which is a power of 10. Annex zeros when necessary to complete the number of decimals.

6. Applying to the new and other situations.

Compare. Write =, <, or > in each box.

1. 2.8 X 10 ☐ 0.28 X 100
2. 0.2 X 0.1 ☐ 0.2 X 100
3. 4.23 X 0.01 ☐ 0.43 X 0.1
4. 0.36 X 10 ☐ 0.36 X 100
5. 0.875 X 100 ☐ 8.75 X 10

IV. ASSESSMENT

Complete each table by following the rule.

Rule: Multiply by 10

Input	Output
6.28	
14.30	
0.61	

Rule: Multiply by 100

Input	Output
4.01	
69.28	
0.24	

Rule: Multiply by 0.1

Input	Output
6.28	
14.30	
0.61	

Rule: Multiply by 0. 01

Input	Output
0.641	
8.20	
104.02	

V. ASSIGNMENT

Remediation: Complete the table by multiplying the inputted numbers by 0.1, 0.01, 10 and 100

INPUT	X 0.1	X 0.01	X 10	X 100
1.) 8.0075				
2.) 172. 14				

3.) 0.005				
4.) 25.08				
5.) 1.708				

Enrichment:

1. What is the least number of 10c coins, ₱10 coins, ₱100 bills you should have so that your money amounts to ₱12, 791.70?

2. What is the product of 8.63 X 0.1 X 0.01?

MATH 6

1st Quarter

(Lesson 16)

I. OBJECTIVE

Solves routine and non-routine problems involving multiplication of decimals and mixed decimals including money using appropriate problem solving strategies (**M6NS-Ie-113.2**)

Value Focus: Being Thrifty

II. SUBJECT MATTER

A. Skill: Solving routine and non-routine problems involving multiplication of decimals and mixed decimals including money using appropriate problem solving strategies

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 28, pp.113-116

C. Materials: activity cards, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

Mental Computation done by groups.

Mechanics:

a. Put equation cards on the table.

b. Each member of the group take turns in getting cards, read it, then give the answer orally.

c. If the given answer is wrong, the other group can steal and get the point if they can give the correct answer.

d. The group with the most number of correct answers wins the game.

Example:

2.5 X 0.1 = N	8.56 X 100 = N
0.23 X 10 = N	0.16 X 0.1 = N
1.40 X 0.01 = N	1.92 X 10 = N

2. Review

a. Problem cards will be given to each group

b. Have each group read the problem given to them.

c. Teacher will call:

All 4's of each group – give the facts

All 2's of each group – give the operation

All 3's of each group – give the number sentence

All 1's of each group – give the correct answer

d. The group with the most number of correct answers, get a point for their group.

Sample Problems:

1. Tina bakes pastries and sell it at ₱1.25 each. One day she sold 95 pieces. How much was her sale?

2. Mother bought 3 tablecloths at ₱120.85 each. She will use it for the coming barangay fiesta. How much did she pay for the tablecloths?

3. A can of powdered milk has a mass of 0.345 kilogram. What is the mass of 12 cans of milk?

3. Motivation

What do you usually eat during recess time? Do you buy your food in the canteen or you have brought it from home? How much is your daily snack allowance?

Did you spend it all for snacks? Why is it good to save a little amount from your baon?

For those who have not save anything yet, what are your plans?

(Teacher infuse the value of being thrifty)

B. Developmental Activities

1. Presentation

Present the menu on the board

MENU		
Ham and cheese sandwiches	-	₱12.00
Hotdog sandwich	-	₱10.00
Hamburger sandwich	-	₱15.00
Hamburger with cheese	-	₱18.75
Cheese sandwich	-	₱8.50
Juice (in tetrapack)	-	₱9.00
Juice (in can)	-	₱15.00

Let us read these problems base from the menu chart above.

1. Lito bought 2 orders of Hotdog sandwich. How much will Lito pay in all?
2. Liza celebrates her birthday with her 4 friends. If she buys hamburger sandwiches for them, how much will Liza pay to the cashier?
3. Mrs. Reyes asked Maria to buy 12 orders of cheese sandwich in the school canteen. How much money should Maria bring to buy the orders?

4. The principal asked the teachers to buy 20 pieces of juice in tetra pack for the laborers. How much will the principal pay for the juice?

2. Performing Activities

a. Group the class into four and give them activity cards containing the problems above. Each group will only answer one problem assigned to them?

b. Let each group exchange papers for them to answer the other problems. This procedure is repeatedly done until all groups finished answering the four problems.

- What is asked in the problem
- What operation to be used/
- What is the number sentence?
- What is the answer

c. Teacher facilitates in checking and discussing their answers. Encourage pupils to ask questions to clarify confusions.

3. Processing the activity

Teacher should celebrate the groups who got the most number of points and encourage the group to do better the next grouping activities.

Ask: What are the steps in solving word problems?
Why do we have to analyze the word problem before giving the answer?
How do you know that your answer is correct?

4. Reinforcing the concept and skill

Read the problems below and answer what is asked of you.

The rental for a Tamaraw FX is ₱3,500.00 a day. What will it cost you to rent it in 3.5 days?

a. What is asked?
b. What are the given facts in the problem?
c. What operation to be used?
d. What is the number sentence?
e. What is the answer?

What is the area of a rectangle with a length of 9.72 cm and a width of 6.34 cm?

a. What is asked?
b. What are the given facts in the problem?
c. What operation to be used?

d. What is the number sentence?
e. What is the answer?

Cris spends ₱35.50 for food each day. How does she spend in 12 days?

a. What is asked?
b. What are the given facts in the problem?
c. What operation to be used?
d. What is the number sentence?
e. What is the answer?

5. Summarizing the lesson

Ask: What are the steps in solving a word problem?
How do you translate a problem into a number sentence?
How would you describe your answer?

6. Applying to new and other situation

Translate the following problems to equation or number sentence then solve.

1. If 1 meter of cloth costs ₱72.95, how would 6.5 meters cost?
2. Mang Quintin, a ballot vendor bought 120 new duck eggs at ₱3.85 each. How much did he pay for all the eggs?
3. A cone of ice cream costs ₱16.25, how much in all did the 8 children spend for ice cream?

IV. ASSESSMENT

Write the number sentence and solve. Label your answers correctly.

1. Mrs. Diaz bought a residential lot with an area of 180.75 meters at ₱650.00 per square meter. How much did she pay for the lot?
2. Mrs. San Jose has 1.86 meter of lace. She used 0.5 of the lace for edging the collar of her blouse. What part of the lace was used?
3. How much will 15 kilograms of ground beef cost if one kilogram cost ₱99.00?

V. ASSIGNMENT

Translate these problems to number sentence and solve.

1. A contractor finished 0.25 of a highway in 5 days. If the highway is 60.8 kilometers long, what part of the highway was finished?
2. Mark works 40 hours a week. If his hourly rate is ₱38.25, how much is he paid a week?
3. A carpet costs ₱172.85 per square meter. If you want to buy 7.5 meters of carpet, how much will you pay?

MATH 6

1st Quarter

Lesson 17

I. OBJECTIVE/S

Solves multi-step problems involving multiplication and addition or subtraction of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tools **(M6NS-If-113.3)**

Value Focus: Thriftiness, Proper Budgeting

II. SUBJECT MATTER

A. Skill: Solving multi-step problems involving multiplication and addition or subtraction of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tools

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition, Lesson 28, pp. 113-116, Lesson Guide in Elementary Mathematics 6, pp. 25-28, Teacher's Guide in Mathematics 5, pp. 64-68

C. Materials: equation cards, activity cards, charts, manila papers, marking pens

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill – Mental Computation Mechanics:
   a) Put equation cards on the table.
   b) Each member of the group take turns in getting and reading the cards, then give the answer orally.
   c) If the given answer is wrong, the other group can steal and get the point if they can give the correct answer.
   Ex.
   3.5 x 3.5 = N 6.2 x 0.5 = N 0.24 x 0.5 = N
   2.1 x .18 = N 8.5 x 8.5 = N 4.5 x 0.15 = N
   d) The group with the most number of correct answers wins the game.

2. Review – Square Share
   a) Problem cards will be given to each group.
   b) Have each group read the problem given to them.
   c) Teacher will assign a number for each group member and call:
   All 4s of each group – give the facts
   All 2s of each group – give the operation
   All 3s of each group – give the number sentence
   All 1s of each group – give the correct answer

d) The group with the most number of correct answers, gets a point for their group.

Sample Problem: Clara bought 2 notebooks at ₱25.75 each, a ballpen at ₱10.00 and a pad paper at ₱30.50. If her money is a ₱500.00 bill, how much was her change?

3. Motivation

What are the steps in solving a word problem?
Why do we have to analyze the word problem before giving the answer?
What is the importance of knowing the hidden question in a problem?
Do all problems have hidden questions? Why?
How do you know that your answer is correct?

B. Developmental Activities

1. Presentation

Present the following problem.

Hannah saved ₱180.75 in June and ₱155.50 in July. Then she bought a 3 pieces of head band for ₱25.00 each. How much of her savings from June and July was left?

a) How much savings was left after Hannah bought the head bands?
b) What is the total amount of the 3 head bands?
c) How much did Hannah save for both June and July?
d) What is the number sentence?
e) How many hidden questions are there in the problem?

2. Performing the Activity

1) Teacher prepares word problems involving multiplication with addition or subtraction of decimals.

Example:

Mother gives ₱50.00 to Christy every day. Christy spends 35.50 for food each day. She saves the rest of her money. How much will Christy save in 12 days?

a) What does the problem ask for?
b) What are given?
c) What process/es will you use to solve it?
d) What are the hidden questions?
e)Translate it into a number sentence.
f) Solve for the answer and label you answer.

2) The first pupil to tap the board will answer the first question, followed by other member of his group. A point will be given if they give the correct answer.
3) The other group can steal if the given answer is wrong.

3. Processing the Activity

After the game, the teacher will give emphasis on solving word problems involving multiplication with addition or subtraction of decimals including money.

Valuing: Give emphasis on being thrifty since the lesson involves money.

Example: How do you spend your baon/money?
Why do you have to be thrifty? Will it benefit you?
How about your family?

4. Reinforcing the Concept and Skills

Give the hidden question, write the number sentence, then solve.

1) The manager gave his team ₱5,000.00 for transportation and food on their field trip. The transportation fare is worth ₱350.00 per day. They will be having the field trip for 3 days. How much is left for their food?

2) Wilma bought 2 t-shirts at ₱135.00 each and a pair of pants for ₱550.00. How much change did she get from his ₱1000.00 peso bill?

5. Summarizing the Lesson

Lead the pupils to give the generalization.

To solve multi-step problems involving multiplication and addition or subtraction of decimals, mixed decimals and whole numbers including money, we are guided by the following:

Understand

- Know what is asked
- Know the hidden facts
- If any, determine the hidden questions

Plan

- Determine the operation to be used
- Write the number sentence

Solve

- Show the solution
- Check and look back
- Check your answer
- State the complete answer

6. Applying to New and Other Situations

Translate the following problems to equations or number sentences then solve.

1) Mang Quintin, a balot vendor, bought 120 duck eggs at ₱5.75 each. How much is his profit if he will sell them for ₱10.00 each.

2) Dina asked Carlo to buy 5 ice cream cones worth ₱22.50 each. How much will be his change if Dina gives him a ₱200.00 peso bill?

C. Assessment

Solve the following multi-step problems and use the table to answer the questions below.

ITEM	ORIGINAL PRICE	SALE PRICE
Ball pen	₱8.00	₱5.00
Crayons	₱10.50	₱8.25
Pad Paper	₱25.75	₱18.50
Notebook	₱15.00	₱10.00
Pencil Case	₱33.00	₱28.75

1. Jordan bought 2 ballpens and a pad paper at the sale shop. How much money did he save?

2. Riza bought 5 notebooks, a ballpen and a pencil case. How much did she pay?

3. On which type of school supply do buyers save the most money during the sale?

4. Mrs. Santos bought 10 notebooks, 2 pad papers, 4 ball spens and 2 pencil case for her children. How much change did she got out of her ₱1000.00 bill?

5. Carlo is planning to buy 10 notebooks and ball pens from his ₱200.00 bill. After buying notebooks, how many ball pens can he buy out of his money?

D. Home Activity

Translate these problems to number sentences then solve.

1) A carpet costs ₱275.50 per square metre. If you want to buy 10.5 square metres of carpet, how much will be you change if your money is three ₱1000.00 bills?

2) Jessica earned P175.25 a week for 15 weeks. She gave P750 to her mother. How much earnings are left to Jessel?

MATH 6

1st Quarter

Lesson 18

I. OBJECTIVE/S

Creates problems (with reasonable answers) involving multiplication without or with addition or subtraction of decimals, mixed decimals and whole numbers including money. **(M6NS-If-114)**

Value Focus: Thriftiness, Proper Budgeting

II. SUBJECT MATTER

A. Skill: Creating problems (with reasonable answers) involving multiplication without or with addition or subtraction of decimals, mixed decimals and whole numbers including money

B. Reference: K to 12 Grade 6 Curriculum Guide, Lesson Guide in Elementary Mathematics 6, pp. 25-28, Teacher's Guide in Mathematics 5, pp. 44-48

C. Materials: flash cards, activity cards, charts, manila papers, marking pens

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill –

Arrange the following steps in problem solving according to its proper order.

Solve	Know what is asked	Determine the operation
Understand	Know the given facts	Check and Look Back
Plan	Answer the problem. Show your solution.	Write the number sentence

2. Review

Review the steps in solving word problems.

Ask: What did you understand about the following essential guide questions to problem solving.

a. What is asked in the problem?
b. What are the given facts?
c. How will you solve the problem?
d. What operation will be used?
e. What is the number sentence?
f. Is the solution or the process of deriving the answer correct?
g. What is the answer?

3. Motivation

What do you buy in the canteen?
Do you spend all your money for food?
Why is it important to save money?

B. Developmental Activities

1. Presentation

Present the menu on the board.

CANTEEN MENU

Banana Cue- ₱5.00	Ice Candy- ₱5.00
Camote Cue- ₱10.00	Orange Juice- ₱7.00
Quail Egg- ₱2.00	Munchkins- ₱3.00
Arroz Caldo- ₱10.00	Siopao- ₱5.00

2. Performing the Activities

a) Let each group formulate 2 word problems using the menu for 10 minutes only.
b) Let each group exchange manila papers for them to answer the problems presented by the other group for 10 minutes.
   a. What is asked in the problem?
   b. What are the given facts?
   c. How will you solve the problem?
   d. What operation will be used?
   e. What is the number sentence?
   f. Is the solution or the process of deriving the answer correct?
   g. What is the answer?

c) Let each group return the paper to its owner for them to check if it is answered correctly.
d) The group who gives a wrong answer will be deducted 2 points.

3. Processing the Activities

Critiquing of the formulated word problems.
Are the word problems formulated well? How did you know?
Can the problem be solved if there is a missing fact/information?
Does the formulation of the problems affect how it is being answered?

Say: We familiarize ourselves with the concepts of multiplication with addition or subtraction of decimals.
We thought of the problem we want to create.
We reviewed the parts of a word problem.
We read some sample problems and study their solutions.

4. Reinforcing the concept and skill

Group Activity

Divide the class into three groups. Let them choose a leader and a secretary. Give each group an activity card with the data to be used for creating a problem. Then let each group post its work on the board. The leader will report to the class the word problem they created and the solution and answer to it.

ACTIVITY 1

- Mother asked Angel to buy some things in the Sari-Sari Store
- 2 bars of laundry soap worth ₱7.00 each
- 4 packs of noodles worth ₱10.00 each
- 5 kilos of rice worth ₱40.50/kilo
- Mother gave Angel ₱500.00 bill
- The change Angel has received from the store.

ACTIVITY 2

- Judy's Mother gives her ₱20.00 every school day to buy snack.
- Judy saves ₱25.00 every week.
- The money Judy saved for 4 weeks or 1 month
- Total amount of expenses for 4 weeks or 1 month

ACTIVITY 3

- Aling Vilma sells cupcakes for ₱5.00 each
- Aling Vilma sold 50 pieces cupcakes
- 15 Pieces of cupcakes were not sold
- Amount of cupcakes sold
- Amount of cupcakes not sold

5. Summarizing the Lesson

Lead the pupils to generalize the following:

To create a word problem,

- Be familiar with the concepts/ steps in solving word problems.
- Think of the type of the problem to be created.
- Read some samples of word problems and study their solutions.

The following are necessary when creating a problem.

- All the given data needed to solve the problem should be there.
- The answer must be the answer to what is asked for and must be reasonable.

6. Applying to New and Other Situation

Based on the given data, create a problem and give your answer to the problem.

- Barangay Malibago is 28.5 km from the town proper.
- In going there, Jay traveled 15.75 km by jeep, 3.5 km by tricycle and the rest by walking.
- Number of kilometer Jay walked.

IV. Assessment

Using the data below, create a word problem involving multiplication with or without addition or subtraction of decimals.

1.
- Annalyn went to the mall to buy some ingredients for a spaghetti recipe.
- She bought the following items:
  2 packs of 500 grams spaghetti sauce worth ₱135.50 each
  A kilo of pasta worth ₱ 208.75
  2 packs of 500 grams ground pork worth ₱280.00 per kilo
- Her money is ₱1000.00
- Amount of change she received

2.
- Mother gave ₱25.00 each to Jose, Mario and Tony for their school transportation fee.
- She asked the children to return the change upon returning home.
- The 3 children used up ₱21.50 each for transportation.
- Total amount of change Mother collected from the 3 children.

V. Home Activity

Remediation

Create a word problem involving a) multiplication with addition of decimals including money b) multiplication with subtraction of decimals including money.

Enrichment

Create a word problem involving multiplication with addition or subtraction of decimals using the data below.

NAME	Length of cloth needed for making shorts in EPP	Amount of Cloth per meter	Money gave to the cashier
Celine	1.24 m	₱35.50	₱ 100.00
Andrea	2.20 m		₱ 200.00
Minerva	1.75 m		₱ 500.00

MATH 6

1st Quarter

Lesson 19

I. OBJECTIVE/S

Divides whole numbers by decimals up to 2 decimal places and vice versa **(M6NS-Ig-116.3)**

Value Focus: Punctuality

II. SUBJECT MATTER

A. Skill: Dividing whole numbers by decimals up to 2 decimal places and vice versa

B. Reference: K to 12 Grade 6 Curriculum Guide p.151, Teacher's Guide in Mathematics 5, pp. 75-78

C. Materials: ball, fish bowl, activity cards, charts, manila papers, marking pens

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill – Pass the Ball
   The teacher plays a music. Let a ball be pass from one pupil to another. When the music stops, the pupil with the ball gets a strip of paper from the fish bowl and answers it.
   Example:

280 ÷ 5	348 ÷ 4	645÷3	860÷10

2. Review
   Strategy: Game- "Number Scramble"
   Materials: 2 sets of cards with digits 0-5
   Mechanics:
   a. Form 2 groups. Give each group a set of cards
   b. Using the numbers on their cards, ask the groups to form a division equation that will satisfy the question you will dictate.
      Sample questions:
      1. Form a division equation that gives the smallest possible quotient.
      2. Form a division equation that gives the greatest possible quotient.
      3. Form a division equation that gives a quotient multiple by 10.
      4. Form a division equation with a number 2 in the quotient.
   c. The group who can first give the correct answer gets a point.
   d. The first group to earn 3 points win the game.

3. Motivation
   What art projects do you do in your MAPEH Class? Do you have fun making them?

Do you submit them on time?

B. Developmental Activities

1. Presentation

Present this problem to the class.

A long bond paper which is 13 inches in length is equivalent to 33.02 centimeters. If Tony will divide the long bond paper into 2 centimeter strips of paper for his art project, how many strips of paper can he make?

a. Help the pupils understand the answer by asking some comprehension questions. Then ask: What is asked? What are given?
b. What operation should you use to solve the problem? Why?
c. Let the pupils write the number sentence on the board.

2. Performing the Activities

Group Activity

Group the pupils into two groups.
Give activity cards for them to solve. After 10 min., let them exchange activity cards.

SET A	SET B
24÷3.6= N	12.6÷3= N
56÷2.5=N	25.4÷12=N
38÷12.2=N	62.2÷13=N
84÷3.3=N	34.4÷11=N

3. Processing the Activities

How did you find the activity? How were you able to find the answer?
Discuss with the pupils the steps in dividing whole numbers by decimals and vice versa.
Say:

- To divide a decimal by a whole number, write the decimal point in the quotient directly above the decimal in the dividend. Then divide the same way as you divide whole numbers.
- To divide a whole number by a decimal, change the divisor to a whole number by moving the decimal point. To move the decimal point in the dividend the same number of places, you will need to add one or more zeros. Then divide.

4. Reinforcing the concept and skill

Give the quotient.

a) 25÷2.5=N
b) 39÷ .25=N
c) 14.2÷3= N
d) 36.3÷3=N
e) 28.12÷12=N

5. Summarizing the Lesson

Lead the pupils to give the following generalization by asking:
How do we divide whole numbers by decimals and vice versa?

- To divide a decimal by a whole number, write the decimal point in the quotient directly above the decimal in the dividend. Then divide the same way as you divide whole numbers.
- To divide a whole number by a decimal, change the divisor to a whole number by moving the decimal point. To move the decimal point in the dividend the same number of places, you will need to add one or more zeros. Then divide.

6. Applying to New and Other Situation

Give the quotient.

A. a) 54÷0.6=
b) 78÷1.3=
c) 675÷4.5=

B. a) 96.9÷19=
b) 12.8÷8=
c) 26.4÷22=

IV. Assessment

Give the quotient.

1) 37.68÷60=
2) 32.2÷20=
3) 24.2÷12
4) 56÷12.2=
5) 80÷2.5=

V. ASSIGNMENT

Remediation

Solve.

1. Mang Kanor divided his 32.25 hectares land to his 3 children. How much land does each children receive?
2. A 560 centimeter piece of cloth will be divided into 22.4 centimeter strips of cloth. How many pieces of cloth can be made?

Enrichment

Solve for N.

1. 15.0÷3=N
2. 36.3÷6=N
3. 66.3÷12=N
4. 750÷15=
5. 250÷2.5=

MATH 6

1st Quarter

Lesson 20

I. OBJECTIVE/S

Divides decimals/mixed decimals up to 2 decimal places **(M6NS-Ig-116.4)**

Value Focus: Value of Saving

II. SUBJECT MATTER

A. Skill: Dividing decimals/mixed decimals up to 2 decimal places

B. Reference: K to 12 Grade 6 Curriculum Guide p.151, Number Smart6 pp.90-92

C. Materials: activity cards, charts, manila papers, marking pens

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill – Money Tree

   Pupils opens strips of paper pasted on a picture of a tree. These strips of paper have number sentences the pupils needs to answer.

   Example:

28.8 ÷ 2	36.3 ÷ 3	48÷2.4	86÷2.0

2. Review

   Recall the steps in dividing whole numbers by decimals and vice versa.

3. Motivation

   Do you have things that you really need to buy? What do you do to buy these things? Why is it important to save?

B. Developmental Activities

1. Presentation

Present this problem to the class.

Mario saves his allowance to buy a pair of rubber shoes that costs ₱446.00. If he earns ₱55.75 per week, how many weeks will he need to save?

a. Help the pupils understand the problem by asking some comprehension questions. Then ask: What is asked? What are given?
b. What operation should you use to solve the problem? Why?
c. Let the pupils write the number sentence on the board.

2. Performing the Activities

Guided Practice/Interactive Modelling

•Explain that students will be doing a relay race to solve decimal division problems.
•Students will be divided into groups of four. Each student will get a different task: divide, multiply, bring down, or subtract. You can assign students groups and tasks, or allow them to choose their own groups and tasks.
•Explain that you will give the class a division decimal problem. The "divide" person will begin by writing the problem on the whiteboard or chart paper. The rest of the group will line up behind him in order of their tasks.
•When you say "go," the person dividing will complete the first step of the problem. He will then hand the marker to the next person, who will complete her task. This will continue until the problem is solved. The entire group will sit down when the problem is complete to show the teacher they are finished.
•Tell students that they are allowed to help their teammates, but they cannot leave the line or yell. Remind students that they don't want to talk too loudly, or another group may hear them!
•Remind students that in order to win, they must not only finish first, but also have the correct answer.
•Start the game. Possible problems: 77.21/3; 90.4/2; 5.15/5.
Source: https://www.education.com/lesson-plan/dividing-decimals-dash/

3. Processing the Activities

How did you find the activity? How were you able to find the answer?
Go back to the word problem in the presentation.
Discuss with the pupils the steps in dividing whole numbers by decimals and vice versa.
Say: To divide a decimal number to another decimal number, remember the following:

- Change the divisor to a whole number. Multiply both the divisor and dividend by a power of 10.
- Divide as with whole numbers.

4. Reinforcing the concept and skill

Give the quotient.

a) 36.2÷2.5=N
b) 8.4÷ .2=N
c) 2.4÷1.2= N
d) 36.3÷3.6=N
e) 25.5÷1.5=N

5. Summarizing the Lesson

Lead the pupils to give the following generalization by asking:
How do we divide decimals/mixed decimals up to 2 decimal places?

- Change the divisor to a whole number. Multiply both the divisor and dividend by a power of 10.
- Divide as with whole numbers.

6. Applying to New and Other Situation

Divide the following mixed decimals by decimal.

1) 3.72 ÷ .06 =

2.) 4.84 ÷ .21 =

3.) 8.82 ÷ .42 =

4.) 1.21 ÷ .15 =

5.) 17.52 ÷ .73 =

IV. Assessment

Divide the following decimals by another decimals.
Choose the letter of the correct answer.

1.) .24 ÷ .04 =
a. 6 b. .6 c. .06 d. .006

2.) .88÷ .02 =
a. 0.0044 b. 0.044 c. 0.4 d. 44

3.) .168 ÷ .08 =
a. .021 b. 0.21 c. 2.1 d. 21

4.) .255 ÷ .05=
a. 5.1 b. 51 c. 51.1 d. 511

5.) .728 ÷ .08 =
a. 0.91 b. 9.1 c. 91.1 d. 911

V. ASSIGNMENT

Remediation

Find the quotient of the following decimals and solve for N.
1.) 42.84 ÷ 0.24 = N
2.) 40.32 ÷ 0.32 =N
3.) 66.75 ÷ .25 =N
4). 649.8 ÷ 3.8 = N
5.) 968.25 ÷ 7.5 =N

Enrichment

Solve for N.

1. 25.0÷3.0=N
2. 36.3÷3.3=N
3. 15.0÷1.5=N
4. 7.50÷.25=
5. 4.80÷2.4=

MATH 6

1st Quarter

Lesson 21

I. OBJECTIVE

- Divides decimals up to 4 decimal places by 0.1, 0.01, and 0.001 **(M6NS-Ih-116.5)**

Value Focus: Value of Keen Observing

II. SUBJECT MATTER

A. Skill: Dividing decimals up to 4 decimal places by 0.1, 0.01, and 0.001

B. Reference: K to 12 Grade 6 Curriculum Guide p.152, Number Smart6 pp.90-92

C. Materials: activity cards, charts, manila papers, marking pens

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill – Show some flash cards. Randomly call pupils to answer.
   Example:

35.6÷10	35.6÷100	35.6÷1000

2. Review
   Recall the steps in dividing decimals/mixed decimals up to 2 decimal places.

3. Motivation
   Are you a keen observer? Do you observe little details from the big picture?

B. Developmental Activities

1. Presentation

Let the pupils observe the following number sentences.

35.6 ÷ 1 = 35.6	35.6 ÷ 0.1 = 356	35.6 ÷ 0.01 = 3560

Ask: What have you observed in the number pattern?

What can you derive out of it?

2. Performing the Activities

Divide the class into 5 groups and give them the following problems on a strip of paper.
Let them assign a reporter for each group.
Tell if the following statements is true or false. Defend your answer.

1. The quotient of 16.8 ÷ .01 is 1680.

2. If you divide 98.74 by .001 you get the quotient of 9874.

3. The quotient you get in dividing 0.358 by 0.1 is 35.8.

4. 148 is the quotient when you divide 1.48 ÷ 0.01.

5. The result of dividing 6.06 by 0.1 is 60.6.

3. Processing the Activities

How did you find the activity? What were you able to find out?

Discuss with the pupils the steps in dividing decimals up to 4 decimal places by 0.1, 0.01, and 0.001.

Say: When dividing by 0.1, 0.01, 0.001…, move the decimal point to the right as many times as the number of decimal places of the number in the dividend.

4. Reinforcing the concept and skill

Give the quotient.

a) 0.4578÷0.1=N
b) 0.6758÷ 0.01=N
c) 99.7895÷0.001= N
d) 6.8531÷0.01=N
e) 23.5÷0.001=N

5. Summarizing the Lesson

Lead the pupils to give the following generalization by asking:
How do we divide decimals up to 4 decimal places by 0.1, 0.01, and 0.001

> When dividing by 0.1, 0.01, 0.001…, move the decimal point to the right as many times as the number of decimal places of the number in the dividend.

6. Applying to New and Other Situation

Find the quotient.

1) 3.72 ÷ 0.1 =

2.) 4.84 ÷ 0.001 =

3.) 8.82 ÷ 0.01 =

4.) 1.21 ÷ 0.001 =

5.) 17.52 ÷ 0.1 =

IV. Assessment

Complete the table. Divide each factor by 0.1, 0.01 and 0.001

	÷ 0.1	÷ 0.01	÷ 0.001
1.) 0.18			
2.) 0.4793			
3.) 143.12			
4.) 248.15			
5.) 445.72			

V. ASSIGNMENT

Remediation

Find the quotient of the following decimals and solve for N.

1.) 42.84 ÷ 0.01 = N

2.) 40.32 ÷ 0.001 =N

3.) 66.75 ÷ 0.01 =N

4). 649.8 ÷ 0.1 = N

5.) 968.25 ÷ 0.001 =N

Enrichment

Solve for N.

1) 425.67÷0.1=N
2) 396.3÷0.001=N
3) 15.45÷0.01=N
4) 75.80÷0.001=
5) 5.80÷0.1=

MATH 6

1st Quarter
(Lesson 22)

I. OBJECTIVE/S

Divides decimals up to 2 decimal places by 10, 100 and 1000 mentally. **(M6NS-Ih-118)**

II. SUBJECT MATTER

Value Focus: Alertness in every undertakings

A. Skill: Dividing decimals up to 2 decimal places by 10, 100 and 1000 mentally.

B. Reference: K to 12 Grade 5 Curriculum Guide, RBEC Grade 6 Lesson Guide 2003 Edition Lesson 36, pp. 146-148; Mathematics Skillbook 6 pg. 58-59

C. Materials: flash cards, activity cards, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill:

   Mental Computation (Flashcards)
   Multiplying decimals by 10, 100 and 1000

   a) Divide the class into 5 groups with 9 members in each group.

   b) The pupils form 9 lines and go at the back

   c) Teacher flashes a card, like the ones shown below.

0.5 x 10	0.73 x 100	0.463 x 1000
2.3 x 10	3.25 x 100	55.65 x 1000
42. 6 x 10	35.8 x 100	26.8 x 1000

   d) Pupils give the answer orally. The first to give the correct answer will sit down at the side and the one who got the wrong answer will just step sideward. Next pupil in line will answer the next flashcards and continue the process until all the flashcards had been answered. The group who have the most sitted players won the game.

2. Review

   When multiplying decimals by 10, 100 and 1000, what do we do with the decimal points?
   To what direction do we move the decimal point?

3. Motivation

   Present this problem to the class. One day Grandma asks her twin granddaughters Myra and Mia to pack 28.67 kg chicharon in 10 small packs. How many kg of chicharon did each pack have? The one who can answer orally will

receive P30 as a gift. Myra's answer is 2,867 kg while Mia's answer is .2867 kg of chicharon.

Asks: Who got the correct answer?

Answer: Myra **Why?**

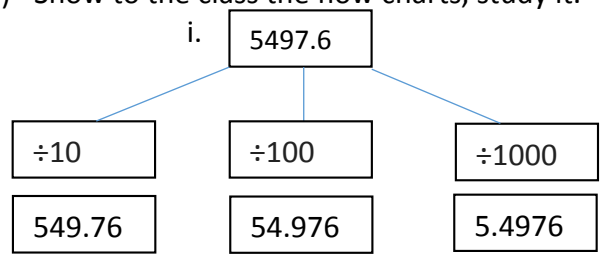
Infuse the value of alertness in every undertakings

B. Developmental Activities

1. Presentation

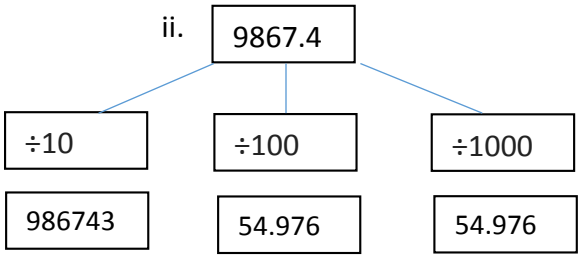
a) Show to the class the flow charts, study it.

i.



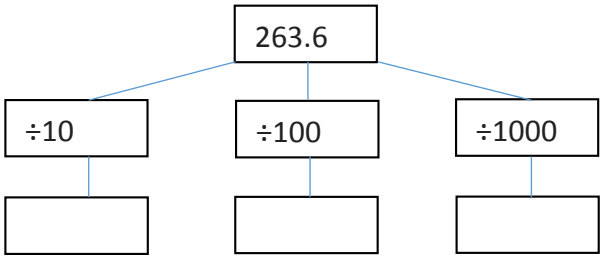
Answer

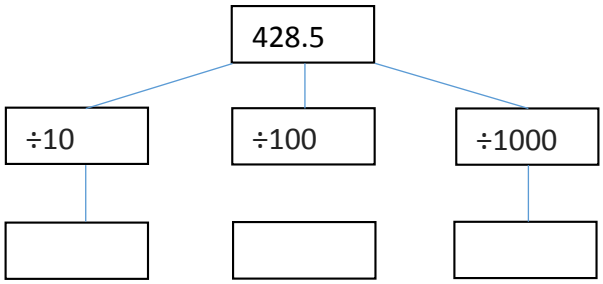
ii.



Answer

a) What happens to the decimal point in the examples above? Towards what direction does it move?
b) Is there a pattern in the movement of the decimal point?
c) Elicit the pattern from the pupils.
d) Discuss the rules/steps in dividing decimals by 10, 100 and 100.
e) Give more examples:





2. Performing the activity

PASS IT ON (Work in Pairs)

a) Divide the class into 3 groups, (2 pupils per question to answer).
b) Flash an equation, ex:

193.4 ÷ 10	63.81 ÷ 1000	393.63 ÷ 1000	741.31 ÷ 100
2.10 ÷ 10	2.68 ÷ 10	741.31 ÷ 10	9.38 ÷ 100
46.32 ÷ 100	42.71 ÷ 100	741.31 ÷ 100	29.38 ÷ 100

c) The first 2 pupils in the group solves the equation mentally, decide what is the answer and write it on a piece of paper
d) After 10 seconds, teacher says "Pass" and they pass the papers to the next 2 pupils in their group, who in turn, solve mentally the equation that will be shown by the teacher and write their answer on the same piece of paper.
e) Continue this until everyone in the group has participated.
f) The group with the most correct answers wins.
g) Discuss again the importance of being alert in solving equations.

3. Processing the activities

After answering the flashed equation, how did you find the activity? How did you solve decimals by 10, 100 and 1000 mentally?

Expected response:

- We move the decimal point 1 place to the left if it is divide by 10.
- Two place to the left if it is divided by 100
- Three places to the left if it is divided by 1000

4. Reinforcing the concept and skill

Group the class into three. The teacher present the following exercises and call each group to answer the equation mentally one by one.

What divisor should be place in the box to get the answer on the right side.10, 100, 100.

1) 53.8 ÷ ☐ = .538
2) 197.2 ÷ ☐ = 1.972
3) 46.38 ÷ ☐ = .04638
4) 793.81 ÷ ☐ = 79.381
5) 842.6 ÷ ☐ = 8.426

6) 963.31 ÷ ☐ = 0.96341
7) 438.6 ÷ ☐ = 4.386
8) 942.67 ÷ ☐ = 9.4267
9) 378.7 ÷ ☐ = 37.87
10) 749.38 ÷ ☐ = 0.74938

5. Summarizing the lesson

How do you divide decimals by 10, 100 and 1000?
To divide decimals by 10, 100 and 1000 we;

- Move the decimal point to the left as many zeros are there in the divisor.
- Prefix zero/zeros before the decimal point if needed

6. Applying to the new and other situations

Give the answer orally

1) 425.9 ÷ 10
2) 438.61 ÷ 100
3) 768.38 ÷ 1000
4) P64.00 ÷ 10
5) P960 ÷ 1000
6) P6907.00 ÷ 100
7) P4891.10 ÷ 10
8) P7674.20 ÷ 1000
9) P963.68 ÷ 100
10) 471.13 ÷ 1000

IV. ASSESSMENT

Give the answers mentally as fast as you can.

1) 63.8 ÷ 10
2) 56.51 ÷ 100
3) 635.2 ÷ 100
4) 426.6 ÷ 10
5) 24.73 ÷ 100
6) 34.83 ÷ 10
7) 168.37 ÷ 100
8) 57.81 ÷ 100
9) 149.2 ÷ 1000
10) 59.27 ÷ 1000

V. ASSIGNMENT

Remediation

Complete the table below:

Decimal	÷10	÷100	÷1000
1) 14.8			
2) 2763.32			

3) 129.74			
4) 88.29			
5) 212.73			

Enrichment

Analyze and solve the problem mentally:

Which is the best buy:

- A 10 grams of chocolate cost P38.62
- A 100 grams of chocolate cost of P69.28
- A 1000 grams of chocolate cost of P189.65

Why? Support your answer.

MATH 6

1st Quarter

(Lesson 23)

I. OBJECTIVE/S

Differentiate terminology from repeating, non-terminating decimal quotients. **(M6NS-Ii-119)**

Value Focus: Practice cooperation in working with the groups

II. SUBJECT MATTER

A. Differentiating terminating from repeating, non-terminating decimal quotients.

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Guide 2003 Edition Lesson 33 pp. 130-133; Mathematics Skillbook 6 pg. 51, Understanding mathematics 6 pg. 98-101.

C. Materials: flash cards, activity cards, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill: Mental competition – Game "PARTNER HELP ME"
   a. Divide the class into two groups.
   b. Work the problem in pairs.
   c. Two sets of problem card are put in front of the class. Another new set of answer cards are hang beside the problem cards.
   d. The first pupil in the group will get 1 problem card and he/she will read aloud. His/her partner will get the answer from Answer cards hanging at the side. After pairing it they will go at the back holding the problem card and the answer card.
   e. Continue the process until all the pupils in the group do their task.
   f. The teacher evaluates their answer, the group who have the most correct answer wins the game.
   g.

Sample Problem Cards		Answer Cards	
100 ÷ 50	400 ÷ 10	0.5	30
200 ÷ 10	800 ÷ 8	0.25	20
1000 ÷ 20	5 ÷ 8	0.625	50
80 ÷ 4	2 ÷ 8	100	9
90 ÷ 3	4 ÷ 8	2	15
1 ÷ 2	6 ÷ 12	0.2	25
3 ÷ 5	225 ÷ 25	0.6	
2 ÷ 4	75 ÷ 5		
1 ÷ 5			

2. Review

- How would you divide decimals by 10, 100, 1000
- Answering of homework.

Decimal	÷10	÷100	÷100
1. 14.8			
2. 2763.32			
3. 129.74			
4. 88.29			
5. 212.73			

3. Motivation
   i. Present a picture to the class about bayanihan (Transferring the house to another place, What can you say about the picture?)
   ii. What will you do so that we can finish the task given to us on time?
   iii. Elicit answers from the group?

B. Developmental Activities

1. Presentation

   Present this problem to the class. Mrs. Reyes bought 1/3 kg of lansones. The reading on the scale was 0.33. Did Mrs. Reyes get what she bought?

   Ask: How did you get 0.33

   Expt. Response: Divide 1 by 3 = 0.333

   What do you notice with the decimal quotient?

   Answer: The numbers are repeating

   Note: When dividing, there are digits that repeat no matter how many zeros are added. The remainders are not zeros. These are called repeating or non-terminating decimals.

   The digit or set of digits that repeat is called repetend. Usually a bar is written over the numerals that are repeated.

   Ex. 2/11 = 0.181818 or 0.1818

   4/9 = 0.444 or 0.4

2. Performing the activity

   Group the pupils into 5. Let the members in each group work collaboratively. Let them present their output one at a time when done.

Find the quotients then indicate whether it is terminating or non-terminating decimal. Solve for 5 minutes.

1. 2 ÷ 3
2. 4 ÷ 6
3. 5 ÷ 11
4. 1 ÷ 2
5. 2 ÷ 7
6. 7 ÷ 9
7. 3 ÷ 11
8. 4 ÷ 11
9. 5 ÷ 9
10. 7 ÷ 2
11. 10 ÷ 4
12. 48 ÷ 3

- The group who got the most correct answers won

3. Processing the activities

After all groups have presented, ask, how did you find the activity? How did you differentiate between terminating from repeating decimal?

- We divide the numbers, if the quotients never ends, it is a repeating decimal
- When the division terminates or comes to and end with a zero remainder, it is terminating decimal

4. Reinforcing the concept and skill

Divide and differentiate whether the quotient is terminating or non-terminating decimal.

1. 12 ÷ 7
2. 5 ÷ 2
3. 45 ÷ 150
4. 11 ÷ 9
5. 4 ÷ 83

5. Summarizing the lesson

Lead the pupils to give the following generalization by asking:
How do you differentiate between terminating and non-terminating decimal?

- A repeating or non-terminating decimal results when the division never ends. A bar is placed above the repetend.
- A terminating decimal results when the division terminates or comes to an end with a zero remainder.

6. Applying to the new and other situations

Find out which of the following are terminating decimals and repeating decimals.

1. 70 ÷ 14
2. 9 ÷ 16
3. 9 ÷ 13
4. 3 ÷ 14
5. 99 ÷ 11

IV. ASSESSMENT

Solve and identify if the decimal quotient is a terminating or repeating/ non-terminating decimal

1. 7 ÷ 4

2. 15 ÷ 9
3. 3 ÷ 16
4. 11 ÷ 2
5. 6 ÷ 27

V. ASSIGNMENT

Remediation

Find the quotient and differentiate the quotient if it is terminating decimal or repeating decimal.

1. 2 ÷ 9
2. 1 ÷ 6
3. 8 9
4. 13 ÷ 16
5. 9 ÷ 45

Enrichment

Differentiate the quotient if it is terminating decimal or repeating decimal:

1. 9/400
2. 790 ÷ 99
3. 999 ÷ 81
4. 104 ÷ 16
5. 106 ÷ 12

MATH 6

1st Quarter

(Lesson 24)

I. OBJECTIVE

Solves routine and non-routine problems involving division of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tool. **(M6NS-Ii-120.2)**

Value Focus: Being Thrifty

II. SUBJECT MATTER

A. Skill: Solving routine and non-routine problem involving division of decimal, mixed decimal and whole numbers including money using appropriate problem solving strategies and tools

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition Lesson 39 pp. 152-155, Beyond Math Grade 6 pg. 129-130, XL Excelling in Mathematics 6, pp 86-87, Understanding Mathematics pg. 102-105.

C. Materials: flash cards, activity cards, charts, manila papers

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill (Flashcards)
   Flash the following cards and pupils answer mentally.

56 ÷ 0.1	125 ÷ 0.1	56 ÷ 0.001	125 ÷ 0.001
342 ÷ 0.001	48 ÷ 0.01	592 ÷ 0.001	72 ÷ 0.1

2. Review
   Find the quotient and differentiate the quotients if it is terminating decimal or repeating decimal.
   1. 2 ÷ 9
   2. 1 ÷ 6
   3. 8 ÷ 9
   4. 13 ÷ 16
   5. 9 ÷ 45

3. Motivation

   Samuel's daily allowance is P20. He is saving P5 a day and puts it in his piggy bank. How would you describe Samuel?
   Would you do the same? Why?

B. Developmental Activities

1. Presentation

Present this situation to the class. Ask the pupils to read it.
➢ Kenneth is saving P2.50 each day. How many days will it take him to save P50.00?

Ask: What does the problem ask you to find?
How will you find the answer to the problem?

2. Performing the activity

Divide the class into 5 groups, each group must work together in solving the problem.

Solution to the problem:

UNDERSTAND: Find the number of days it will take Kenneth to save P50.00
PLAN: To solve the problem, divide P50.00 by P2.50
SOLVE: Show your solution
Move the decimal point in the divisor to make it a whole number. (Multiply it by 100)
a. x 100 = 250
Divide:
Check by multiplying the quotient and the divisor.
ANSWER: It will take Kenneth 20 days to save P50.00

3. Processing the activities

After sharing the answers, let the pupils express their thoughts about the activity. Appreciate their thoughts then ask:
How did you solve the problem?

Expected answers:
We followed these steps in solving the problem.
Understand the problem

- We know what the problem asked for.
- We wrote down the given facts

Plan

- We determined the operation to us.
- We thought of the solution to the problem

Solve:

- We find the number of days it will take Kenneth to save P50.00
- We divide P50.00 by P2.50

Check and Look Back

- Check by multiplying the quotient and the divisor
- We stated the correct answer

4. Reinforcing the concept and skill

   Read, analyze and solve

   a. Lily earned P618.76 in 2.75 hours. How much did she earn per hour?
   b. Olive needs to repack 141 kg of rice in plastic bags containing 2.4 kg of rice sack. How many plastic bags of rice will she be able to make?
   c. Mirabela paid P783.75 for 4.75 kg of grapes. What was the price per kilo?

5. Summarizing the lesson

   Lead the pupils to generalize as follows:
   Ask: How do we solve routine and non-routine problems involving division of decimals, mixed decimals and whole numbers including money?

In Solving problems, we use these steps:

Understand

- Know what the problem asked
- Know the given facts

Plan

- Determine the operation to use
- Write the number sentence

Solve

- Show the solution to the problem

Check and look back

- Check if the answer is reasonable
- State the complete answer

6. Applying to the new and other situations

   Read and Solve

   - Aubrey has 22.8 meters of cloth. She wants to cut it into pieces of 1.2 meters long, how many pieces of clothes will she get?

IV. ASSESSMENT

Read and understand the problems. Then solve.

1. An art teacher gives Joshua several containers with a total of 28.5 liters of paint for a mural. He asks him to pour 1.5 liters into each smaller containers. How many small containers will Joshua need?

2. Jimmy, John and six other members of the delegation of teachers and students will share equally the cost of cabin rented. If the cost is P10,225.50. How much will each person pay?
3. The Girl scouts raised an amount of P288.75 for a Cleanup project after giving P5.25 each. How many girl scouts contributed?
4. For 6 days, Rolando had a total of 10.5 hours of overtime in his office. What was his daily overtime?
5. The driver if a racing car drove 190 km in 3.4 hours. What was his average speed expressed in kilometers per hour?

V. ASSIGNMENT

Remediation

Read and Solve

1. Roxanne has P38.50 left in her purse. She has to buy ribbons for the gift. Each meter of a ribbon costs P5.50. How many meters of ribbon can she buy?
2. Mang Tony has 7.5 hectares of land. He wants to divide it into 1.5 hectares each for his sons. How many sons does Mang Tony has?

Enrichment

Read and Solve

1. Jon saves P105.35 a week. How long will it take him to save P1,264.20?
2. Robert plans to go to the province for a vacation. He wanted to buy presents for his nephews worth P289.45 each. He allotted P1,157.80. How many nephews does he have in the province?
3. Christian is a businessman. Every first week of December, he deposits P51,025.00 for the Christmas bonus of his employees. Each employee receives P6,378.50. How many employees are there?

MATH 6

1st Quarter

(Lesson 25)

I. OBJECTIVE/S

- Solves multi-step routine and non-routine problems involving division and any of the other operations of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tools. **(M6NS-Ij-120.30)**

Value Focus: Being Helpful

II. SUBJECT MATTER

A. Skill: Solve multi-step routine and non-routine problems involving division and any other operations of decimals, mixed decimals and whole numbers including money using appropriate problem solving strategies and tools.

B. Reference: K to 12 Grade 6 Curriculum Guide, RBEC Grade 6 Lesson Plan 2003 Edition pp. 155-159, understanding mathematics 6 pg 106-110, Mathematics Skillbool 6 pg. 60.

C. Materials: flash cards, activity cards, charts

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill

   Mental Computation:

   - Solve the problems mentally.
   - Divide the class into 5 teams.
   - Flash the problems, let the class solve mentally.
   - The team having the most correct answer won.

     Problems;

     - After buying some books and school supplies worth P45.75, how much change will you receive from a P50-bill?
     - Aling Josie bought 1.5 kg of pork, 1.75 kg of chicken and 1.25 kg of beef. How many kg of meat did she buy?
     - A kilo of onion costs P24.50. How much will 4 kilos cost?
     - Edgar reads books for 1.5 hours per day. How many hours does he spend reading in a week?
     - Vicky sold 36 kilos of mangos. If each person bought 1.5 kilos, how many people bought mangoes?

2. Review

   Answer yesterday's assignments of solving routine and non-routine problems involving division of decimals, mixed decimals and whole numbers.

   Problems:

- Roxanne has P38.50 left in her purse. She has to buy ribbons for the gift. Each meter of a ribbon costs P5.50. How many meters of ribbon can she buy?

3. Mang Tony has 7.5 hectares of land. He wants to divide it into 1.5 hectares each for his sons. How many sons does Mang Tony have?

3. Motivation

Show a picture to the class a boy who is helping an old lady carry her bag and helping her cross the road.

Ask: What can you say about the picture?
Would you do the same? Why?
Infuse the value of being helpful.

B. Developmental Activities

1. Presentation
Present this situation to the class. Ask pupils to read it.

> Three carpenters worked in a house. One worked for 3.25 days, the second worked for 4.5 days and the third for 3.75 days. What is their average number of working days?

Ask:
What does the problem ask you to find?
How will you find the answer to the problem?

2. Performing the activity
Divide the class into 4 groups; each group must work together in solving the problem. Let them present their output to the class.

Understand:
Find the average number of working days by the carpenter.

PLAN:
Determine the operation to be used.
Addition and division
Add the days and divide its sum by 3

Solve: Show your solution:
(3.25 + 4.5 + 3.75) ÷ 3 = N

```
        3.893
      3|11.50
       - 9              3.25
         25            +4.5
       - 24             3.75
           10          11.50
          - 9
            1
```

Number of Carpenters (→ 3)

Answer: The average working days of the 3 carpenter is 4 days (round off 3.893 to 4)

Check: Work backward to check your answer.

3. Processing the activities

After all the groups have presented, ask how did you find the activity?
How did you solve the problem? We follow the following steps:
Expected answers:
Understand the problem

4. We knew what the problem asked for
5. We wrote down the given facts

Plan

6. We determined the operation to use
7. We thought of the solution to the problem

Solve

- We add the days worked by the 3 carpenters
- Divide the total number of days by the 3 carpenters.
- Round off to 4 to determine the average working days of the carpenters.

Check and look back

- We check if the answer is correct

4. Reinforcing the concept and skill

Group the pupils into four. Let the groups work on different stations. Station 1 for group 1, station 2 for group 2, station 3 for group 3 and station 4 for group 4. Each station has a corresponding problem to solve.

Sample Problems.

Station 1 (Addition and division of decimal)

8. The electric bill of the Santos family for the month of October was P1920.50 and P1615.00 on November. What was the average cost per day?

Understand:_____
Plan:_____
Solve:_____
Answer:_____
Check:_____

Station 2 (Multiplication, Subtraction and division of decimals)

9. Carmen bought 3 loaves and 5 mamons of P242.50. How much does each loaf of bread cost if a mammon cost P21.50?

Understand:_____
Plan:_____
Solve:_____
Answer:_____
Check:_____

Station 3 (Division and Multiplication of decimals)

10. The perimeter of a square is 21.2 cm. What is its area?
    Understand:_____
    Plan:_____
    Solve:_____
    Answer:_____
    Check:_____

Station 4 (Subtraction and Multiplication of decimals)

11. Rona's Mother bought 6.75m of clots at P35.00 per meter. She used 3.4 m for her daughter's gown in their Junior-Senior Prom
    a) How much cloth remained?
    b) How much did Rona pay for the cloth?

5. Summarizing the lesson
   Lead the pupils to generalize as follows:
   Ask: How do you solve multi-step routine and non-routine problems involving division and other operations involving decimals?

In solving problems, we follow these steps:

Understand

- Know what the problem asked
- Know the given facts

Plan

- Determine the operation to use
- Write the number sentence

Solve

- Show the solution to the problem

Check and Look back

- Check if the answer is reasonable
- State the complete answer

Read and Solve

- Aling Rosie bought a 50-kilogram sack of sugar for P1,000.00. She packed it into 2.5 kilogram per pack and sold each pack for P70.00. How much did she gain?

IV. ASSESSMENT

Read and understand the problems. Then solve.

1. If new tires cost P1567.70 and the tax figured at 0.06 times the cost of each tire. How much will you pay for 3 new tires?
2. Jojo bought a mountain bike that cost P2800.00. He made a down payment of P1575.00. He paid the rest of the amount in 5 equal installments. How much did he pay for each installment?

V. ASSIGNMENT

Remediation

Read and Solve

1. Ruby's expenses for Monday was P39.50; Tuesday P62.3-; Wednesday P56.70; Thursday P39.50 and Friday P45.80. What was the average expenses per day?
2. Grace receives P220.50 as school allowance from her mother. Her aunt gave her an additional P183.75. If her daily expenses is P36.74, for how many days will her allowance last?

Enrichment

1. Lerma and her classmates went swimming. They spent P1206.25 for food and P1172.50 for transportation and entrance fees. They get P1196.75 from the club funds and each one shared P98.50 to pay for the remaining expenses. Ow many shared in the amount?
2. Kobe bought a pair of socks for P199.95. He was given P35.50 as discount. Kobe gave the cashier P900.00, How much change did he receive?

MATH 6

1st Quarter

(Lesson 26)

I. OBJECTIVE/S

- Creates problems (with reasonable answers) involving division without or with any of the other operations of decimals, mixed decimals and whole number including money. **(M6NS-Ij-121.2)**

Value Focus: Accepting social responsibilities

II. SUBJECT MATTER

A. Skill: Creates problems (with reasonable answers) involving division without or with any of the other operations of decimals, mixed decimals and whole number including money.

B. Reference: K to 12 Grade 6 Curriculum Guide, Understanding Mathematics Grade 6 pp. 111-116, XL Excelling in Mathematics 6 pg. 91 Mathematics Skillbook pg. 60.

C. Materials: flash cards, activity cards, charts

III. INSTRUCTIONAL PROCEDURE

A. Preliminary Activities

1. Drill (Flashcards)

   Have a drill in division of decimal by a whole number

2.4 ÷ 6	0.48 ÷ 3	0.60 ÷ 5
3.6 ÷ 9	0.81÷ 9	2.40 ÷ 30
6.4 ÷ 8	3.60 ÷ 10	0.72 ÷ 9
12.0 ÷ 6	5.60 ÷ 7	0.32 ÷ 8

2. Review

   Review on solving multi-step word problems involving division of decimals, mixed decimals and whole numbers including money.

   3. Ruby's expenses for Monday was P39.50; Tuesday P62.3-; Wednesday P56.70; Thursday P39.50 and Friday P45.80. What was the average expenses per day?
   4. Grace receives P220.50 as school allowance from her mother. Her aunt gave her an additional P183.75. If her daily expenses is P36.74, for how many days will her allowance last?

3. Motivation

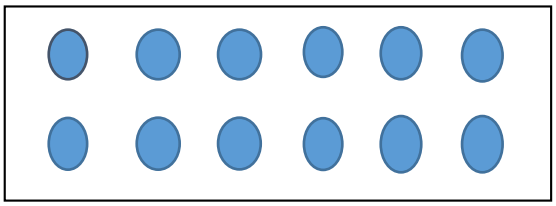
   Present a picture of a child helping his parents in their vegetable garden.
   Ask: What can you say about the picture?
   Let the pupils share their experiences planting vegetables in their garden.

Values Integration: Elicit answers from the pupils that growing vegetables in their backyard can help improve the food supply in the community.

B. Developmental Activities

1. Presentation

   Present to the class a tray having 12 pieces of eggs and the amount to is P66.00



Amount P66

   Based on the picture presented, can you create a problem involving division of decimals.

   Sample problems.

   Luis paid P66.00 for a dozen of eggs

   How much did each egg cost?

2. Performing the activity

   Group the pupils into 5. Let the groups work collaboratively on their assigned groups. Let them present their output one at a time, when done.

   Direction: Given the following information, create a problem that involves division of decimals.

   Group 1

   Given: 32.4 decimeter, 2.7 decimeter

   Problem:

   Group 2

   Given: 1.75 kilos per pack

   24.5 kilos – total weight

   Problem:

   Group 3

   Given: 32.5 meters of cloth

   7 blouses of the same size

   Problem:

   Group 4

   Given: withdraw P24,836.40 tuition for 6 children

   Problem:

   Group 5

   Given: 6.5 total hours of over time

   4 days

Sample problems:

Group 1

- How many pieces of ribbon 2.7 decimeters long can be cut from a piece of ribbon of 32.4 decimeters long?

Group2

- Mrs. Go has a basket of lansones having a total weight of 23.5 kilos. She wants to repack this into small container having a weight of 1.75 kilos, how many containers of lansones doe Mrs. Go has?

Group 3

- Aling Rose bought 32.5 meters of cloth to make 7 blouses of the same size. How many meters of cloth must she use for each blouse?

Group 4

- Sam withdraw P24,836.40 from the bank. He allotted equal amounts for the tuition fee down payments of his 6 children. How much did he allot for each child.

Group 5

- For 4 days, Juliet had a total of 6.5 hours overtime. What was her average daily overtime?

3. Processing the activities
   After all groups have presented, ask how did you find the activity? How did you create problems involving division of decimals?
   Expected answers:
   - We familiarized ourselves with the concept of division of decimals
   - We thought of problems we want to create
   - We read sample problems and studied their solutions.
4. Reinforcing the concept and skill
   Direction: Create a word problem involving division of decimals, mixed decimals and whole numbers including money using the e data/information given.
   1. Given: P574.50, 6 children
      Sample Problem: Mrs. Santos gave P574.50 to her 6 children, how much did each child have?
   2. Given: P51.25, P24.50 per kilo
      Sample Problem: Rey paid P61.25 for the pechay he bought. The amount per kilo was P24.50. How many kilos did Rey buy?
   3. Given: 40 meters of cloth, 2.5 meters long
      Sample Problems: Mrs. Perez bought 40 meters of cloth for the dress uniform of her dancers. Each dancer consumes 2.5 meters of her uniform, how many dancers were given the uniform?

5. Summarizing the lesson

   Lead the pupils to give the following generalization by asking:

How do you create problems involving division without or with any of the other operations of decimals?

To create word problems involving division without or with any other operations of decimals:

- Familiarize yourself you want to create
- Think of the problem you want to create
    a) Consider the character, cite the situation/setting, data presented, word problems to be created, and the key question.
    b) Ensure that the word problems is clearly stated and practical
- Read some sample problems and study their solution

6. Applying to the new and other situations

   Direction: Divide the class into two groups. From the given information below, Group 1 will create a word problem involving division or with any of the other operation of decimals and whole numbers while Group 2 will solve and find the answers for the following word problems created.

   a. Given: P139.50 ÷ 15.00
      Problem: _____
   b. Given: P107.50 – (P8.50 x 5)
      Problem: _____

IV. ASSESSMENT

Using the data below, create a word problem involving (a) division of mixed decimal by a whole number (b) division of mixed decimal by a mixed decimal (c) division of whole number by mixed decimal

1. Miriam made 18 hamburgers she earn;
   P463.50 cost of each hamburger
   Problem:_____
2. Airplane flies 1496.3 km at 2.8 hours average speed per hour.
   Problem:_____
3. Mrs. Chan has 12 meters of cloth used for each blouse.
   Problem:_____

V. ASSIGNMENT

Remediation

Analyze each data below and create your own problem involving division of decimals.

1. 128.4 kg of rice for flod victims
   11.10 kg of rice each victim received
   Problem:_____

2. Flowers cost P360.00
   Each pupil contributes P120
   Problem:_____
3. 1.75 kg of sugar in a container
   0,25 kg each recipe needs
   Problem:_____

Enrichment

Create a word problem involving division without or with any other operations of decimals, mixed decimals and whole numbers including money.

1. Mina paid P525 for 100 green mangoes
   Sold P7.20 each
   Problem:_____
2. Allan worked 8.25 hours and paid P907.50
   Felix worked 7.5 hours and paid P1387.50
   Problem:_____