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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 2
Lesson
5

Lesson Exemplar for Mathematics Grade 5
Quarter 2: Lesson 5 (Week 5)
SY 2024-2025

Development Team

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MATHEMATICS/QUARTER 2/ GRADE 5

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. **Content Standards**	Decimal Numbers with Decimal Parts up to Ten Thousandths
B. Performance Standards	Add and Subtract Decimal Numbers. (NA)
C. Learning Competencies and Objectives	***Learning Competency*** 1. Add and subtract decimal numbers with decimal parts of up to 3 decimal places. *2.* Solve multi-step problems involving addition and/or subtraction of decimals, including problems involving money.
C. Content	1. Add and Subtract Decimal Numbers with Decimal Parts of Up to 3 Decimal Places a. Addition and Subtraction of Decimals Up To 3 Decimal Places Without Regrouping b. Addition and Subtraction of Decimals Up To 3 Decimal Places With Regrouping 2. Solve Multi-Step Problems Involving Addition and/or Subtraction of Decimals, Including Problems Involving Money
D. Integration	21st Century Skill: Critical Thinking and Collaboration, Health and Wellness

II. LEARNING RESOURCES
● Camitman, A.A. (2021). *Number Smart Worktext in Mathematics.* Rex Book Store, Inc., ISBN: 978-621-04-1689-3 ● Laforteza, R. A. & Santiago, J. P. (2015). *Exploring Math Possibilities 5.* Don Bosco Press, Inc. ISBN: 978-971-9978-81-7 ● Suarez, J. V. (2019). *Math Beyond Time 5.* JO-ES Publishing House, Inc. ISBN: 978-971-655-611-7 ● https://stock.adobe.com/ph/search?k=vegetable+stand&asset_id=710627796 ● https://www.istockphoto.com/vector/front-view-market-wood-stand-with-farm-food-and-vegetables-in-open-box-vector-with-gm954525940-260609096 ● https://www.shutterstock.com/search/vegetables-stand?image_type=vector ● https://www.da.gov.ph/wp-content/uploads/2024/05/Weekly-Average-Prices-May-20-25-2024.pdf

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. **Activating Prior Knowledge**	**DAY 1** The teacher will start by letting the students recall concepts on addition and subtraction of whole numbers: a. How do we add/subtract whole numbers? *Answer:* We add whole numbers by combining two or more numbers having the same place value to to get the total. We subtract whole numbers by getting the difference between numbers having the same place value. b. What do we do when we add and subtract whole numbers without regrouping? *Answer:* To add numbers without regrouping we have the following steps: 1. Align the digits according to place value. *2.* Add from left to right according to place value. To Subtract numbers without regrouping we have the following steps: 1. Align the digits according to place value. *2.* Subtract from right to left by place value. c. What do we do when we add and subtract whole numbers with regrouping? *Answer:* To add numbers with regrouping we have the following steps: 1. Align the digits according to place value. *2.* Add from left to right according to place value. *3.* Regroup if needed. To Subtract numbers with regrouping we have the following steps: 1. Align the digits according to place value. 2. Subtract from right to left by place value. 3. Regroup if needed.	

	After this, the teacher will provide a short review on performing adding and subtracting whole numbers with and without regrouping. The teacher may choose to make this as a group activity where the class is divided into groups and each group will compete to get the correct answer. The group with the highest score will be the winner. **1. Short Review** Before we move to our next lesson, let us first recall what are the rules for adding and subtracting whole numbers with and without regrouping: a. To add numbers without regrouping, simply add the digits having the same place value and write the sum in the appropriate column. b. To subtract numbers without regrouping, subtract the digits having the same place value and write the difference in the appropriate column. c. To add numbers with regrouping, simply add the digits having the same place value starting from the ones digit and regroup when necessary. d. To subtract numbers with regrouping, simply subtract the digits having the same place value starting from the ones digit and regroup if necessary. To revisit the skill that we already learned, let us solve the following. A. Perform the indicated operation a. 251 + 412 d. 8796 − 6372 b. 4634 + 3576 e. 2312 − 1643 c. 4473 + 5113 **2. Feedback (Optional)**	
B. Establishing Lesson Purpose	**1. Lesson Purpose** Previously, we already learned how to add and subtract whole numbers with and without regrouping. Suppose we are to solve this problem: Rita paid P 25.75 for a notebook and P 12.50 for a ballpen. How much money did Rita spend in all? After reading and understanding the problem, we can say that this problem involves decimal numbers. Do you think addition and subtraction of decimal numbers is somehow related to addition and subtraction of whole numbers?	In this part of the lesson, the teacher may utilize guided questions in order to gather the observation of the students with regards to the given values. The teacher may end this part by asking the students if adding and subtracting decimals with and without regrouping follow the same rule as adding and

	2. Unlocking Content Vocabulary Before we proceed to our next lesson, let us first revisit some of the terminologies that we learned from our previous lesson which will remain important in our new lesson. Let us redefine, on our own words, what these words mean: **Sum** | **Without Regrouping** | **With Regrouping** **Difference** | **Place Value** | **Decimal**	subtracting whole numbers with and without regrouping. In this part of the lesson, the teacher will review the related terminologies that are commonly used in adding and subtracting decimal with and without regrouping.
C. Developing and Deepening Understanding	**SUB-TOPIC 1: Addition and Subtraction of Decimals Up To 3 Decimal Places Without Regrouping** **1. Explicitation** Let us go back to our problem earlier. *Rita paid P 25.25 for a notebook and P 12.50 for a ballpen. How much money did Rita spend in all?* To solve the problem, we need to get the sum of the costs of the notebook and the ballpen. However, the values given involve decimals. To add decimals, simply align the place values of the numbers and then add. Solution: P 25.25 + P 12.50 P 37.75 From the result, we can say that Rita paid P 37.75 in all. The inverse or opposite process of addition is subtraction. We even use subtraction to check if our sum is correct. Let us try to continue with Rita's situation in our first problem. *If Rita was given exactly P 68.75 by her mother to buy those school supplies, how much money was left?* To solve for the amount of money left, we need to get the difference of the money Rita has initially and total cost of the school supplies she bought. To subtract decimals, simply align the place values of the numbers and then subtract.	In this part of the lesson, the teacher will show the students how to add and subtract decimals without regrouping. The teacher may process the activity by asking the following questions: a. What can you say about the given values? *Answer:* The given values involve decimals. b. What have you noticed about the alignment of the values? *Answer:* Digits with the same values are aligned including their decimal points. c. How do we add/subtract decimals without regrouping? *Answer:* Addition and subtraction of decimals follow the same rules as in addition and subtraction of whole numbers. To

	P 68.75 - P 37.75 P 31.00 In case the values given do not have the same decimal places, add zeros to act as place holders in the decimal. Examples: Add 45.123 and 12.4. 45.123 or 45.123 + 12.4 + 12.400 57.523 Subtract: 652.897 by 341. 78. 652.897 or 652.897 - 341.78 - 341.780 311.117 **2. Worked Example** Do the indicated operation. 1. 10.25 + 0. 23 2. 5.323 + 3.475 3. 234.12 + 24. 6 4. 0.55 - 0. 43 5. 1879.67 - 76.5 **Lesson Activity** (Refer to Learning Activity 1) *Answer:* A. 1. 55.946 2. 47.843 3. 456.796 4. 51.37 5. 5122.333 B. 1. 3.2 2. 52.66 3. 577.89 4. 644.645 5. 7.596	add/subtract decimals without regrouping we have the following steps: 1. Align the digits according to place value. 2. Add/subtract from left to right according to place value. In this part of the lesson, the teacher may divide the class into pairs or triads. After giving the students ample time to perform each operation, volunteers will be called out to show their solutions on the board. *Worked Example Answer:* 1. 10.48 2. 8.798 3. 258.72 4. 0.12 5. 1803.17 In this part of the lesson, the teacher assumes that the students already gained mastery of the concept of adding and subtracting decimals without regrouping up to three decimal places. The

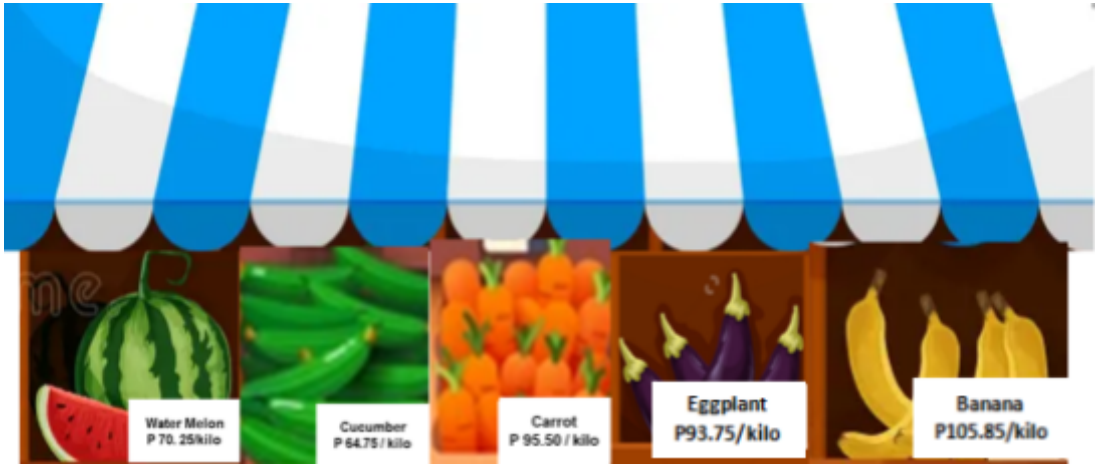
DAY 2

SUB-TOPIC 2: Addition and Subtraction of Decimals Up To 3 Decimal Places With Regrouping

1. **Explicitation**

Our body needs nutritious foods to stay healthy. Having a well-balanced diet is very important to maintain good body functioning. Eating fruits and vegetables is very important as well. Fruits and vegetables are good sources of vitamins, minerals and dietary fiber.

Look at the price tags of fruits and vegetables below and answer the questions that follow.



1. How much is the cost of each kilo of fruit/vegetable? Fill out the table below.

Fruit/Vegetable	Price / kg
Water Melon	
Cucumber	
Carrot	
Eggplant	
Banana	

2. How much would it cost to buy a kilo each of eggplant, carrot and watermelon?
3. Which two items would cost P 176.10 if you buy one kilo of each?

teacher may encourage students to answer and complete the worksheet by pair or in triad.

In this part of the lesson, the teacher will guide the students to discover the steps in adding and subtracting decimals up to three decimal places with regrouping. She may divide the class into 4 groups with each group being assigned two numbers to answer. The teacher may ask the class the following questions:

a. What did we do first when add / subtract with regrouping?

Answer:

We aligned the numbers making sure that place values are aligned including their decimal points.

b. How is adding and subtracting with regrouping different from without regrouping?

Answer:

In adding with regrouping, we add the digits in each column taking the carry over, if any, to the next column to the immediate left, and adding it along with the digit in that

4. Leo has exactly P 135.00, what two items can he buy with one kilo for each item?
5. How much more expensive is a kilo of carrot than a kilo of cucumber?
6. Which two items has a difference of P 5.50 in price per kilo?
7. If you get one kilo for each of them, how much would you pay in all?
8. What is the difference in price per kilo of the most expensive item and the least expensive one?

Answers:

1. After filling out, the table would look like this:

Fruit/Vegetable	Price / kg
Water Melon	P 70.25
Cucumber	P 64.75
Carrot	P 95.50
Eggplant	P 93.75
Banana	P 105.85

2. P 93.75
   95.50
   + 70.25
   P 259.50
   A kilo each of eggplant, carrot and watermelon will cost P 259.50.

3. WaterMelon and Banana

   P 70.25
   + 105.85
   P 176.10
   A kilo each of water melon and banana will cost P 176.10 in all.

4. Watermelon and Cucumber

   P 70.25

column. We continue this process till we add the digits in all the columns.
In subtracting with regrouping, we borrow 1 from the immediate next column on the left and regroup the numbers. It increases the value of the minuend. This enables us to carry out the subtraction.

c. What do we do if we are given numbers with different numbers of decimal places?
Answer:
We use zero as place holders in the decimal.

c. How do we place the decimal point properly?
Answer:
We must see to it that the decimal points are aligned including digits with the same values.

	+ 64.75 **P 135.00** *Leo can buy 1 kilo of water melon and 1 kilo of cucumber from his P 135. 00.* 5. P 95.50 – 64.75 **P 30.75** *A carrot is P 30.75 more expensive than a cucumber.* 6. Watermelon and Cucumber P 70.25 – 64.75 **P 5.50** *Watermelon and Cucumber have a difference of P 5.50 in price per kilo.* 7. P 70.25 64.75 95.50 93.75 + 105.85 **P 430.10** *A kilo each of item will cost P 430.10 in all.* 8. P 105.85 – 64.75 **P 41.10** *The most expensive item is banana and the least expensive one is cucumber. The difference in their price P 41.10 per kilo.* Steps in adding/subtracting decimals: 1. Align the numbers. Make sure that place values are aligned including their decimal points.	

	2. Examine the given numbers and use zero as place holders in the decimal. 3. Add/subtract as you do whole numbers, regrouping if necessary. **2. Worked Example** Perform the indicated operations: 1. 278 + 189. 68 4. 512 − 85. 987 2. 2898. 897 + 357. 98 5. 5.23 + 2.89 + 2.43 + 1.25 3. 1. 8 − 0. 976 **3. Lesson Activity** (Refer to Worksheet 2) Answers: A. B. 1. 1122.092 1. 802.53 + 464.37 2. 894.872 2. 3.636 + 2.61 + 9.58 3. 695.12 3. 234.21 – 179.89 4. 666.795 4. 18.861 – 12.684 5. 94.196 5. 100 – 53.438 **DAY 3** **SUB-TOPIC 3: Solve multi-step problems involving addition and/or subtraction of decimals, including problems involving money**. **1. Explicitation** Today, we will apply what we previously learned to solve real-life problems. The class will be divided into 4 groups. Each group will be given a problem to solve. Group 1 and 2: (Health and Wellness Problem) *Linda was advised by her doctor that she cannot consume more than 650 calories in one meal. Last night she had dinner with her friends and ate bread, lettuce, cheese and an apple. If the calories contained in her meal were 215.26, 30.85, 113.28 and 52.49 respectively, how many calories did she consume in all? Did Linda follow her diet?* Group 3 and 4: (Problem Involving Money)	This worked example could be done in pairs to deepen the understanding of pupils in adding/subtracting decimals with regrouping. Answers: 1. 467.68 2. 3256.877 3. 0.824 4. 426.013 5. 11.8 In this part of the lesson, the teacher may divide the class into four groups and give enough time for students to solve the assigned problem and present their work to the class.

Paolo received P 1250 from his father, P 920 from his mother, P 375.00 from his brother and P 1500 from his aunt as birthday gift. He bought a skateboard worth P 2875.95. How much money was left after the purchase?

To solve problems involving addition and subtraction of decimals, we will follow Polya's Steps in Problem Solving:

Step 1: Read and understand the problem. Identify all the knowns and unknowns.
Step 2: Plan. Determine what operation/s will be used. Write the equation that represents the problem.
Step 3: Solve. Perform the operation.
Step 4: Express your final answer in a complete statement with appropriate units.

To solve the problem assigned to groups 1 and 2.

Step 1: Read and understand the problem. Identify all the knowns and unknowns. From the problem, we can derive the following information:

Given :	One meal ≤ 650 calories
	Bread = 215.26 calories
	Lettuce = 30.85
	Cheese = 113.28
	Apple = 52.49
Unknown:	
	How many calories in all was her meal? Did she exceed her diet?

Step 2: Plan. Determine what operation/s will be used. Write the equation that represents the problem. The problem requires us to get the sum of all the calories present in the food Linda ate and see if it followed her recommended diet. This can be done by comparing the number of calories recommended by the actual number of calories consumed. Summarizing this, we have:

Operation:	
	Addition and Comparing Numbers

In this part of the lesson, the teacher will guide the students in applying the skill in adding and subtracting decimals in solving multi-step real-life problems.

Equation:	
	Equation 1: $n = 215.26 + 30.85 + 113.28 + 52.49$ Where n is the number of calories Compare (>, <, =) n _____ 650

Step 3: Solve. Perform the operation.
Equation 1:

$$n = 215.26 + 30.85 + 113.28 + 52.49$$

$$n = 411.88$$

Compare:

$$411.88 < 650$$

Step 4: Express your final answer in a complete statement with appropriate units. The complete statement can be written as follows:
Linda consumed 411.88 calories in all. Since it is less than 650, then Linda followed her diet.

To solve the problem assigned to groups 3 and 4.

Step 1: Read and understand the problem. Identify all the knowns and unknowns. From the problem, we can derive the following information:

Given :	*P 1250 from his father*
	P 920 from his mother
	P 375.00 from his brother
	P 1500 from his aunt
	P 2875.95 price of skateboard
Unknown:	
	How much money was left after the purchase?

Step 2: Plan. Determine what operation/s will be used. Write the equation that represents the problem. The problem requires us get the total amount of

money Paolo received on his birthday. After that we must subtract from it the cost of the skateboard. Summarizing this, we have:

Operation:	
	Addition / Subtraction
Equations:	
	Equation 1: $n_1 = P\,1250 + P\,920 + P\,375.00 + P\,1500$ Where n_1 is the total amount of money Paolo received. Equation 2: $n_2 = n_1 - 2875.95$ Where n_2 is the amount of money left after Paolo bought his skateboard.

Step 3: Solve. Perform the operations.

Equation 1:

$$n_1 = P\,1250 + P\,920 + P\,375.00 + P\,1500$$

$$n_1 = P\,4045.00$$

Equation 2:

$$n_2 = n_1 - 2875.95$$

$$n_2 = 4045.00 - 2875.95$$

$$n_2 = 1169.05$$

Step 4: Express your final answer in a complete statement with appropriate units. The complete statement can be written as follows:
Paolo has P 1169.05 money remaining.

Worked Examples

Read and understand each problem. Affix appropriate units.

This worked example could be done in pairs to deepen the understanding of pupils in solving problems involving decimals.
Answers:
1. P 68.75, P 31.25
2. P 344.25

This part of the lesson may be given to the students as a formative assessment or quiz. It

	1. Maria was asked by her mother to buy the following with the corresponding prices: a can of sardines for P 18.75 and a pack of noodles for P 12.50. If she were given P 100.00. How much money did Maria have after she bought the items? How much money did she spend? 2. John saves the following amount of money from his allowance: P 75.00, P 55.00, P 25.75. If he wanted his savings to reach P 500.00, how much more would he need to save? **Lesson Activity** (Refer to Learning Activity Sheet 3) *Answer:* 1. 1. 1.5 hours 2. 2. 25.85 kms 3. 3. P 2612.50, P 387.50	may also be given as an asynchronous task if time is limited. The problems provided are examples only. The teacher may use other examples that is more contextualized and localized. The teacher must make sure that students are following the indicated steps in problem-solving.
B. Making Generalizations	**DAY 4** **1. Learners' Takeaways** From the discussion for this week, a. What are the steps in adding and subtracting decimals without regrouping? b. What are the steps in adding and subtracting decimals with regrouping? c. What are the steps in solving problems involving adding and subtracting decimals numbers? **2. Reflection on Learning** a. We were taught how to solve problems involving decimals, do you think these steps can also be applied in solving problems in life? Can you cite instances when you were able to apply these steps in solving a problem at home or at school? b. We also encountered problems about diet and proper nutrition. Do you think it is important to follow a healthy diet? c. One of the problems that we solved is all about medical expenses. Why do you think it is important for us to take care of our health? d. Some of the problems that we solved this week involved money. Do you think proper use of money is important? Why?	In this part of the lesson, the teacher will guide the students in generalizing what they have learned by answering the given guide questions. In this part of the lesson, the teacher will help the students realize the importance of the lesson as a math student and the application of the skills learned in the lesson in real life.

<table>
<tr><th colspan="4">IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION</th><th>NOTES TO TEACHERS</th></tr>
<tr><td>A. Evaluating Learning</td><td colspan="3">1. Formative Assessment
(Refer to Worksheet 4)

2. Homework (Optional)</td><td></td></tr>
<tr><td rowspan="5">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5">Teachers are encouraged to record relevant observations or any critical teaching events that influence the attainment of the lesson objectives. Use or modify the provided template in recording the notable instructional areas or concerns.

In addition, notes here can also be on tasks that will be continued the next day or additional activities needed.</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>C. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?

Why did I teach the lesson the way I did?

▪ <u>students</u>
What roles did my students play in my lesson?

What did my students learn? How did they learn?

▪ <u>ways forward</u>
What could I have done differently?

What can I explore in the next lesson?</td><td>Entries on this section are the teacher's reflections about the implementation of the whole lesson, which will serve as inputs for the LAC sessions. Use or modify the provided guide questions in eliciting teacher's insights.</td></tr>
</table>