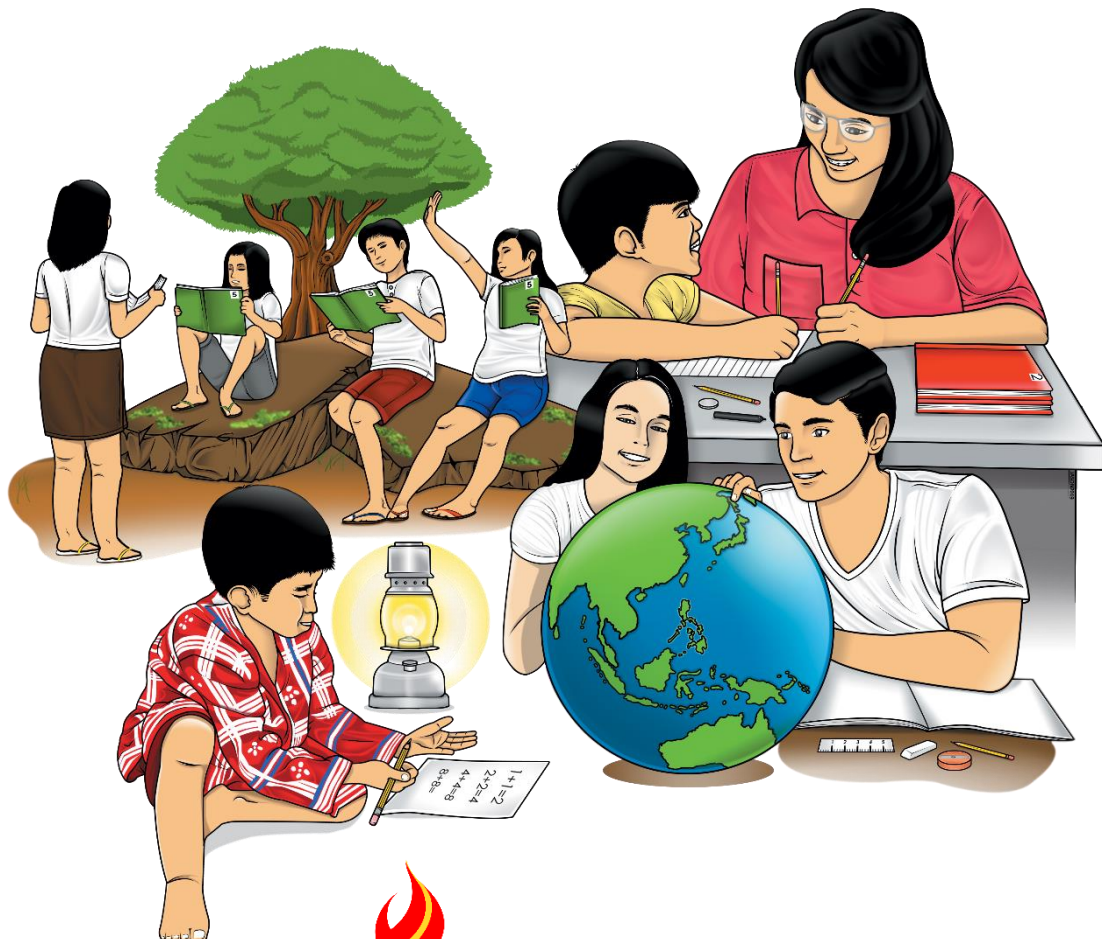


Mathematics

Quarter 1 – Module 15(b):

Subtracting Mentally 2 to 3-Digit Numbers



Mathematics – Grade 3
Alternative Delivery Mode
Quarter 1 – Module 15(b): Subtracting Mentally 2 to 3-Digit Numbers
First Edition, 2020

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Mathematics

Quarter 1 – Module 15(b):
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to 3-Digit Numbers

Introductory Message

For the facilitator:

Welcome to the Grade 3 Mathematics Alternative Delivery Mode (ADM) Module on **Subtracting Mentally 2 to 3– Digit Numbers!**

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the learner:

Welcome to the Grade 3 Mathematics Alternative Delivery Mode (ADM) Module on **Subtracting Mentally 2 to 3 – Digit Numbers!**

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. It was made easy for you to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:



What I Need to Know

This will give you an idea of the skills or competencies you are expected to learn in the module.



What I Know

This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correct (100%), you may decide to skip this module.



What's In

This is a brief drill or review to help you link the current lesson with the previous one.



What's New

In this portion, the new lesson will be introduced to you in various ways such as a story, a song, a poem, a problem opener, an activity or a situation.



What is It

This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.



What's More

This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.



What I Have Learned

This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.



What I Can Do

This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.



Assessment

This is a task which aims to evaluate your level of mastery in achieving the learning competency.



Additional Activities

In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.



Answer Key

This contains answers to all activities in the module.

At the end of this module you will also find:

References

This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it.



What I Need to Know

This module was designed and written with you in mind. It is here to help you comprehend whole numbers, and perform mental math. The scope of this module permits it to be used in many different learning situations. The language used recognizes your diverse vocabulary backgrounds. The lessons are arranged to follow the standard sequence of the course but the order in which you read them can be changed to correspond with the Mathematics Grade 3 learning materials you are using.

After going through this module, you are expected to:

1. Subtract mentally 2 to 3– digit numbers with multiples of hundreds without and with regrouping

Enjoy your journey. Good luck!



What I Know

Subtract the following mentally. You are not allowed to use pen and paper for your solution. Write the final answer directly.

1. $300 - 88 = ?$

2. $500 - 135 = ?$

3. $62 - 19 = ?$

4. $800 - 500 = ?$

5. $753 - 100 = ?$

Lesson

Subtracts mentally 2 to 3 – Digit Numbers with Multiples of Hundreds

This math lesson will introduce simple strategies that you can use to mentally subtract 2 to 3-digit numbers with multiples of hundreds with ease. The exercises provided in this module will help you practice these strategies.



What's In

In your previous lesson you learned to subtract 1 to 2-digit numbers mentally. That lesson is very important to master so that it would be easier for you to subtract 2 to 3-digit numbers mentally. The strategy used in the previous lesson will still be used in this lesson. Only that this time, we will be dealing with larger numbers.

Let us practice what you learned previously.

Activity 1

Subtract mentally the numbers below.

| | | | | |
|--|---|---|---|---|
| $\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$ | $\begin{array}{r} 30 \\ - 10 \\ \hline \end{array}$ | $\begin{array}{r} 88 \\ - 50 \\ \hline \end{array}$ | $\begin{array}{r} 28 \\ - 15 \\ \hline \end{array}$ | $\begin{array}{r} 83 \\ - 57 \\ \hline \end{array}$ |
|--|---|---|---|---|



What's New

Activity 2

Can you help Anne and Pedro solve their task? Answer the problem mentally.

A. Anne bought shoes and bags which cost a total of 300 pesos. She paid 500 pesos. How much change should she expect to receive?

B. Pedro sells eggs for a living. His egg tray can hold 36 eggs. How many more eggs are needed to fill a tray that already has 18 eggs?



What is It

There are instances in real life where mental computation comes in handy. You will face experiences that need you to add or subtract without using a pen and paper. The strategies that will be introduced in this module can be used to subtract mentally, and with constant practice, you will learn to do mental computation with ease.

Strategy 1. Subtract by digit. This works well when we subtract without regrouping. This method is also called the basic rule of subtraction. Simply align the digits under the column of ones, tens, hundreds and thousands then subtract digit by digit.

Example: $678 - 123 = ?$

Solution:

$$\begin{array}{r} 678 \\ -123 \\ \hline 555 \end{array}$$

Strategy 2. Add Up to the Subtrahend. This works well when we subtract with regrouping.

Example 1: $84 - 37 = ?$

Solution:

Think of what to add up to 37 to reach 84.

To get the difference of 84 and 37, slowly add your way up to reach 84 starting from the subtrahend, which in this particular example is 37.

- (a) $37 + 3 = 40$ (40 is the closest tens after 37)
(b) $40 + 40 = 80$ (80 is the closest tens before 84)
(c) $80 + 4 = 84$

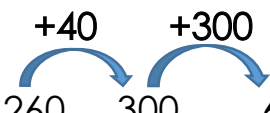
First, add **3** to reach 40, and then add **40** to reach 80. Then finally add **4** to reach 84.

$$3 + 40 + 4 = 47$$

The numbers you added up to reach 84 is actually the difference of 84 and 37 which is **47**. Therefore, $84 - 37 = 47$.

Example 2: $600 - 260 = ?$

Solution: Think of what to add up to the subtrahend to reach the minuend.

 add up to the next hundreds after 260
260 300 600 add up in hundreds to reach 600
 $40 + 300 = 340$ total of the numbers being added up
Answer: $600 - 260 = 340$

Strategy 3. Subtract by hundreds and tens.

This strategy works well when subtracting numbers involving 3-digit numbers in hundreds.

Case 1. The subtrahend is a multiple of hundreds

Example: $876 - 300 = ?$

Solution:

Step 1. Express the given numbers in hundreds and tens.

$$(800 + 76) - (300)$$

Step 2. Subtract the hundreds.

a.) $800 - 300 + 76$

b.) $500 + 76$

c.) 576

Answer: $876 - 300 = 576$

Case 2. The minuend is a multiple of hundreds

Example: $600 - 176 = ?$

Solution:

Step 1. Express in hundreds and tens.

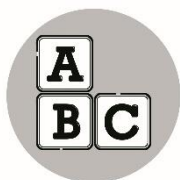
$$600 - (100 + 76)$$

Step 2. Subtract the hundreds then tens.

a.) $600 - 100 - 76$

b.) $500 - 76 = 400 + \frac{100 - 76}{} = 400 + 24 = 424$

Answer: $600 - 176 = 424$



What's More

Activity 3

Subtract mentally by applying the following strategy.

I. Subtract by Digit

a.

$$\begin{array}{r} 700 \\ - 200 \\ \hline \end{array}$$

b.

$$\begin{array}{r} 983 \\ - 700 \\ \hline \end{array}$$

c.

$$\begin{array}{r} 45 \\ - 21 \\ \hline \end{array}$$

II. Add up to the Subtrahend

a. $81 - 55 = \underline{\hspace{2cm}}$

b. $61 - 38 = \underline{\hspace{2cm}}$

c. $500 - 296 = \underline{\hspace{2cm}}$

III. Subtract by Hundreds and Tens

a. $400 - 280 = \underline{\hspace{2cm}}$

b. $700 - 37 = \underline{\hspace{2cm}}$

c. $918 - 300 = \underline{\hspace{2cm}}$



What I Have Learned

In subtracting 2 to 3-digit numbers without regrouping mentally:

Subtract by digit. This works well when we subtract without regrouping. This method is also called the basic rule of subtraction. Simply align the digits under the column of ones, tens, hundreds and thousands then subtract digit by digit.

When subtracting 2 to 3-digit numbers with regrouping mentally:

Add up to the subtrahend.

- ✓ Add up to the subtrahend to reach the nearest hundreds or tens and keep on adding up by hundreds or tens until reaching the minuend.
- ✓ Get the total of the numbers being added up.
- ✓ The numbers you added up to reach the minuend is actually the difference.

Subtract by hundreds and tens.

- ✓ Express the given numbers in hundreds and tens.
- ✓ Subtract the hundreds then tens.



What I Can Do

Mentally subtract the following subtraction problems then write the strategy being used.

A) $700 - 530 =$ _____ Strategy: _____

B) $96 - 43 =$ _____ Strategy: _____

C) $85 - 27 =$ _____ Strategy: _____

D) $300 - 96 =$ _____ Strategy: _____

E) $100 - 76 =$ _____ Strategy: _____



Assessment

Find the difference using mental computation.

1. $300 - 88 =$

2. $350 - 95 =$

3. $62 - 19 =$

4. $100 - 55 =$

5. $700 - 516 =$

6. $200 - 120 =$

7. $500 - 270 =$

8. $65 - 45 =$

9. You have 70 marbles. You gave away 28 marbles to your friends. How many marbles do you have left?

10. You need to save 250 pesos to buy your mother a birthday present. You already have 120 pesos. How much more do you need to save?



Additional Activities

Pair numbers from Column A to Column B that will give a difference of 15.

List the pair of numbers in your notebook.

| | | |
|----|---------------|----|
| 29 | <div>15</div> | 20 |
| 35 | | 14 |
| 33 | | 18 |
| 47 | | 33 |
| 48 | | 32 |



Answer Key

| | | |
|---|--|--|
| <p>Additional Activity</p> <p>29-14=15</p> <p>35-20=15</p> <p>33-18=15</p> <p>47-32=15</p> <p>48-33=15</p> | <p>Assessment</p> <p>1. a. 212</p> <p>2. 255</p> <p>3. 43</p> <p>4. 45</p> <p>5. 184</p> <p>6. 80</p> <p>7. 230</p> <p>8. 20</p> <p>9. 42 marbles</p> <p>10. 130 pesos</p> | <p>What I Can Do</p> <p>A. 270</p> <p>B. 53</p> <p>C. 58</p> <p>D. 224</p> <p>E. 24</p> <p>Note: Strategy used depends on the learner's preference</p> |
| <p>What's More</p> <p>Activity 3</p> <p>I. a. 500</p> <p>b. 283</p> <p>c. 24</p> <p>II. a. 26</p> <p>b. 23</p> <p>c. 204</p> <p>III. a. 120</p> <p>b. 663</p> <p>c. 618</p> | <p>What's In</p> <p>Activity 1</p> <p>1. 5</p> <p>2. 20</p> <p>3. 38</p> <p>4. 13</p> <p>5. 26</p> <p>What's New</p> <p>Activity 2</p> <p>A. 200</p> <p>B. 18</p> | <p>What I Know</p> <p>1. 212</p> <p>2. 365</p> <p>3. 43</p> <p>4. 300</p> <p>5. 600</p> |

References

Mathematics 3, Unang Edisyon. (2014). Pasig City: DepEd- BLR.

Gray, S. (n.d.). www.shelleygrayteaching.com. Retrieved December 6, 2019, from <https://shelleygrayteaching.com/mental-math-subtraction-strategies/>

homeschoolmath.net. (n.d.). Retrieved December 5, 2019, from www.homeschoolmath.net:
https://www.homeschoolmath.net/teaching/a/subtract_mentally_2_digit.php

<https://urbrainy.com/get/1300/subtract-by-adjusting-5076>. (n.d.). Retrieved December 5, 2019, from www.urbrainy.com:
<https://urbrainy.com/>

Tagle-Ditablan, J., Bacarro, J. T., Castro, N. T., & Perez, R. M. (2018). Realistic Math, 2nd Edition. Quezon City: Sibbs Publishing House, Inc.

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