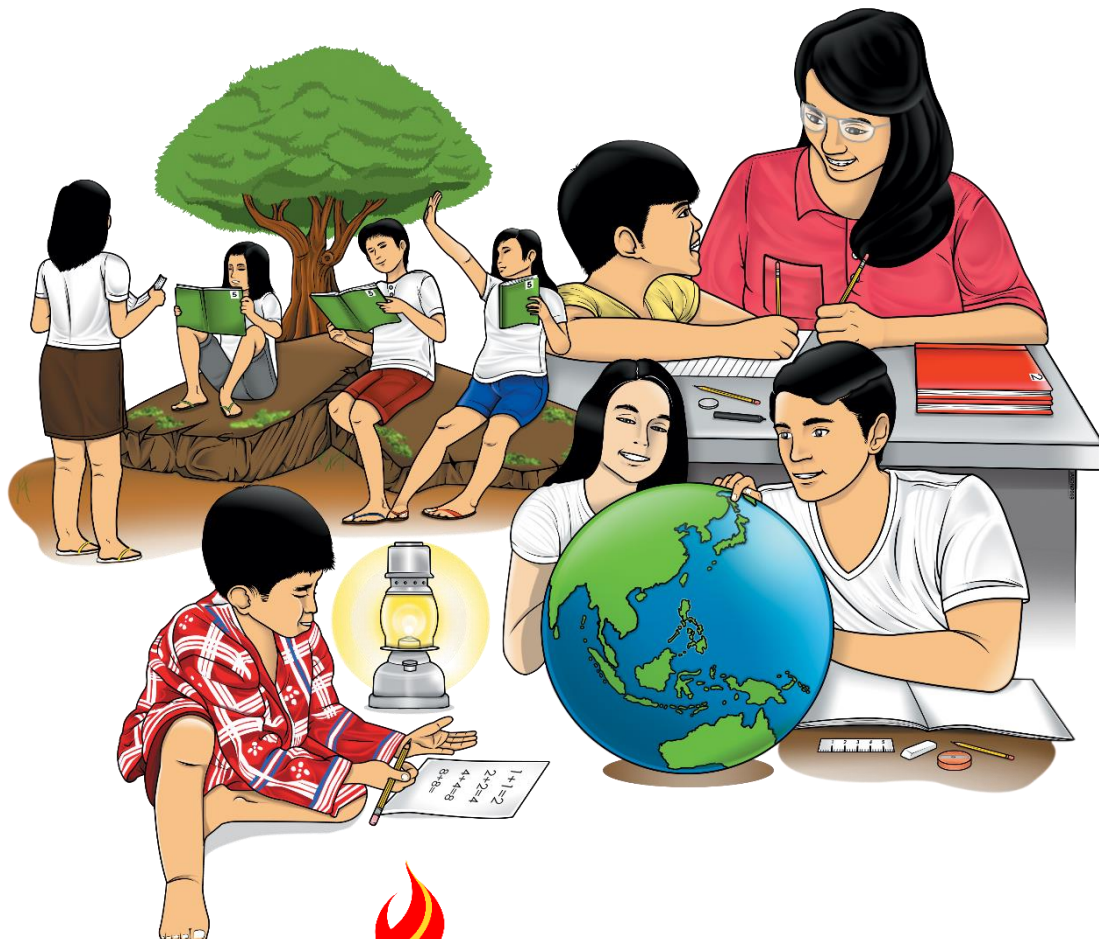


Mathematics

Quarter 1 – Module 13:

Subtracting 3 to-4 Digit Numbers from 3 to-4 Digit Numbers



Mathematics – Grade 3

Alternative Delivery Mode

Quarter 1 – Module 13: Subtracting 3 to-4 Digit Numbers from 3 to-4 Digit Numbers

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Development Team of the Module

Author: Hepsheba C. Hinayon

Editors: Arnel S. Zaragosa, Jeremias C. Ceniza, Gina F. Silvestre, Elma C. Prudente

Annie Fel Lingatong, Edgardo Dondon S. Lorenzo, Ailyn V. Ponce

Reviewers: Helen C. Ugay, Divilyn M. Rodriguez, Edgardo D. Pamugas III

Melissa Keith A. Sarilla, Janette O. Caalim, Ana Lorma A. Dahiroy

Illustrators: Dennis Macaubos, Alfie Valenteros, Christian Loyd Alfuerio, Pit Ybanez

Layout Artist: Menard M. Arenas

Management Team: Allan G. Farnazo

Alona C. Uy

Mary Jeanne B. Aldeguer

Maria Gina F. Flores

Analiza C. Almazan

Arnel S. Zaragosa

Ma. Cielo D. Estrada

Jeremias C. Ceniza

Renato N. Pacpakin

Illuminado T. Boiser

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Department of Education – Region XI

Office Address: F. Torres St., Davao City

Telefax: (082) 291-1665; (082) 221-6147

E-mail Address: region11@deped.gov.ph * lrms.regionxi@deped.gov.ph

Mathematics

Quarter 1 – Module 13:
Subtracting 3 to-4 Digit Numbers
from 3 to-4 Digit Numbers

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

This module was designed and written with you in mind. The scope of this module permits it to be used in many different learning situations. 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 3 to-4 Digit Numbers from 3 to-4 Digit Numbers.
(M3NS-Ig-32.6)

Enjoy your journey. Good luck!



What I Know

Compute the following:

1.)
$$\begin{array}{r} 5\,489 \\ - 476 \\ \hline \end{array}$$
 A. 5 310 B. 5 013 C. 5 130 D. 5 031

2.)
$$\begin{array}{r} 6\,548 \\ - 2\,432 \\ \hline \end{array}$$
 A. 4 110 B. 4 113 C. 4 110 D. 4 116

3.)
$$\begin{array}{r} 8\,106 \\ - 985 \\ \hline \end{array}$$
 A. 7 121 B. 8 121 C. 7 131 D. 8 131

4.)
$$\begin{array}{r} 634 \\ - 579 \\ \hline \end{array}$$
 A. 53 B. 55 C. 61 D. 65

5.)
$$\begin{array}{r} 3\,633 \\ - 3\,566 \\ \hline \end{array}$$
 A. 56 B. 67 C. 78 D. 89

Lesson 1

Subtracting 3 to-4-Digit Numbers from 3 to-4-Digit Numbers without and with Regrouping

There are so many instances in life when you need to solve things involving subtraction of whole numbers. In playing, buying anything, paying debts and many other situations, we need to be aware on how to subtract numbers in order for us to get the right value of the thing we dealt with. If you intend to buy something, you count the money the store gave to you as change. Thus, in many circumstances in your day to day life, you applied your subtraction skills, may it be with or without regrouping.



What's In

Let us review the concept of problems involving addition including money that you have learned in the previous lessons by answering the following questions.

- 1.) Mario has 456 marbles and Roy has 231 chips. How many toys do the two boys have?
- 2.) Christine bought 315 pads of paper and Ana bought 120 pads of papers. How many pads of paper do the two girls have?
- 3.) Find the value of 479 added to 635?
- 4.) Francis combined his 500 toy cards to that of Mark which has 700 toy cards. How many toy cards do the two boys have?
- 5.) Mother bought 550 oranges, 750 apples and 1500 pineapples. How many fruits does mother have?



What's New

In the previous lesson, you performed addition operation through expanded form. In subtracting numbers, we can also apply the expanded form method.

Activity 1

Use expanded method to subtract the given numbers.

$$\begin{array}{r} 1.) \quad 9\,452 \\ - 7\,231 \\ \hline \end{array} \rightarrow \begin{array}{r} 9\,000 + 400 + 50 + 2 \\ - 7\,000 + 200 + 30 + 1 \\ \hline \end{array}$$

←

$$\begin{array}{r} 2.) \quad 5\,356 \\ - 2\,143 \\ \hline \end{array} \rightarrow \begin{array}{r} 5\,000 + 300 + 50 + 6 \\ - 2\,000 + 100 + 40 + 3 \\ \hline \end{array}$$

←

$$\begin{array}{r} 3.) \quad 734 \\ - 322 \\ \hline \end{array} \rightarrow \begin{array}{r} 700 + 30 + 4 \\ - 300 + 20 + 2 \\ \hline \end{array}$$

←

$$\begin{array}{r} 4.) \quad 6\,467 \\ - 465 \\ \hline \end{array} \rightarrow \begin{array}{r} 6\,000 + 400 + 60 + 7 \\ - \quad \quad 400 + 60 + 5 \\ \hline \end{array}$$

←

The expanded method in subtracting numbers is said to be the long method when we subtract numbers involving large digits.

The activity illustrates subtraction of numbers without regrouping using the expanded method. Do you know how to use this method in subtraction with regrouping?

This time, let us use the expanded method in subtracting numbers **with regrouping**.

Remember, we use regrouping in subtraction when the **minuend is smaller than the subtrahend**.

Regrouping means **borrowing to the next place value** to make the minuend greater than the subtrahend so that we can do the subtraction process.

Do the next activity to learn regrouping using the expanded form.

Activity 2

Fill in the missing numbers to complete the subtraction process with regrouping using the expanded form.

1.) Subtract 9 451 by 7 538.

		<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>	
9 451	→	9 000	+ 400	+ 50	+ 1	<i>(minuend)</i>
- 7 238		- 7 000	+ 500	+ 30	+ 8	<i>(subtrahend)</i>

Remember that we do the subtraction starting at the *ones* place.

Is it possible to subtract **8** from **1**? _____

What will you do to the minuend so that you can subtract the normal way? _____

Yes, do the regrouping!

We can borrow from the number at the *tens* place value which is **50**. We will now borrow **10** from the *tens* place.

		<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>	
9 451	→	9 000	+ 400	+ ⁴⁰ 50	+ (1 + 10)	
- 7 538		- 7 000	+ 500	+ 30	+ 8	

Again, we borrow 10 at the *tens* place. So, $50 - 10 = 40$.

Then we add 10 to the *ones* place. So, $1 + 10 = 11$.

Can you now subtract at the *ones* place?

	<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>
9 451	9 000	+ 400	+ ⁴⁰ 50	+ 11
- 7 538	- 7 000	+ 500	+ 30	+ 8

$11 - 8 = ?$

If your answer is **3**, then you are correct!

Now that you are done in the *ones* place, kindly proceed to the *tens* place.

	<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>
9 451	9 000	+ 400	+ ⁴⁰ 50	+ 11
- 7 538	- 7 000	+ 500	+ 30	+ 8
				3

$40 - 30 = ?$

If your answer is **10**, then you are correct!

Now that you are done in the *tens* place, then proceed to the *hundreds* place.

	<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>
9 451	9 000	+ 400	+ ⁴⁰ 50	+ 11
- 7 538	- 7 000	+ 500	+ 30	+ 8
			10	3

Can you subtract 500 from 400? _____

What will you do to make subtraction possible? _____

Yes, do the **regrouping** again!

This time, *hundreds* place will borrow 1 000 from *thousands* place.

Can you show the solution below?

	<u>Thousands</u>	<u>hundreds</u>	<u>tens</u>	<u>ones</u>
9 451	9 000	+ 400	+ ⁴⁰ 50	+ 11
- 7 538	- 7 000	+ 500	+ 30	+ 8
			10	3

If you **borrow 1 000** to *thousands* place then add that 1 000 to *hundreds* place, then congratulations! You got it right!

$$\begin{array}{r}
 9\ 451 \\
 - 7\ 538 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{cccc}
 \textit{Thousands} & \textit{hundreds} & \textit{tens} & \textit{ones} \\
 8\ 000 & 1\ 400 & 40 & 11 \\
 \cancel{9\ 000} & + \cancel{400} & + \cancel{50} & + \\
 - 7\ 000 & + 500 & + 30 & + 8 \\
 \hline
 \boxed{1\ 000} & \boxed{900} & \boxed{10} & \boxed{3}
 \end{array}$$

Can you now write the final answer to the empty cell?

$$\begin{array}{r}
 9\ 451 \\
 - 7\ 538 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{cccc}
 \textit{Thousands} & \textit{hundreds} & \textit{tens} & \textit{ones} \\
 8\ 000 & 1\ 400 & 40 & 11 \\
 \cancel{9\ 000} & + \cancel{400} & + \cancel{50} & + \\
 - 7\ 000 & + 500 & + 30 & + 8 \\
 \hline
 \boxed{1\ 000} & \boxed{900} & \boxed{10} & \boxed{3}
 \end{array}$$

←

For the next two items, fill in the empty cells by subtracting numbers with regrouping using the expanded form.

Remember that you can only borrow:

- ✓ 10 to the *tens* place
- ✓ 100 to the *hundreds* place
- ✓ 1 000 to the *thousands* place

2.) Subtract 2 718 from 5 346

$$\begin{array}{r}
 5\ 346 \\
 - 2\ 718 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{cccc}
 5\ 000 & + & 300 & + & 40 & + & 6 \\
 - 2\ 000 & + & 700 & + & 10 & + & 8 \\
 \hline
 \end{array}$$

←

3.) Subtract 1 352 from 6 334

$$\begin{array}{r}
 6\ 334 \\
 - 1\ 352 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{cccc}
 6\ 000 & + & 300 & + & 30 & + & 4 \\
 - 1\ 000 & + & 300 & + & 50 & + & 2 \\
 \hline
 \end{array}$$

←



What is It

For this lesson, you will focus in subtracting 3 to-4 digit numbers from 3 to-4 digit numbers with or without regrouping.

Example: $9\,875 - 8\,641 = ?$

Study carefully the table below. Take note of how the answer is obtained. Remember that the process of obtaining the answer is as important as the answer itself.

1. Subtract the ones.	2. Subtract the tens.	3. Subtract the hundreds.	4. Subtract the thousands.
$\begin{array}{r} 9\,875 \\ - 8\,641 \\ \hline 4 \end{array}$	$\begin{array}{r} 9\,875 \\ - 8\,641 \\ \hline 34 \end{array}$	$\begin{array}{r} 9\,875 \\ - 8\,641 \\ \hline 234 \end{array}$	$\begin{array}{r} 9\,875 \\ - 8\,641 \\ \hline 1\,234 \end{array}$

Checking:

In checking, try to add the difference and the subtrahend. If the sum will be the minuend, then your difference is correct. See example below.

$\begin{array}{r} 9\,875 \\ - 8\,641 \\ \hline 1\,234 \end{array}$	$\begin{array}{r} 1\,234 \\ + 8\,641 \\ \hline 9\,875 \end{array}$
--	--

The **minuend** is 9 875 while the number to be subtracted or the **subtrahend** is 8 641. The answer is the **difference**. The **difference** between 9 875 and 8 641 is 1 234. The table above shows a systematic way of answering the equation. You indicate what you want to find, and what you need to do. You used subtraction in order to find the difference of the whole numbers.

Observe how the minuends and the subtrahends are properly aligned so that all the ones, tens, hundreds, and thousands digits are written in their respective columns.

The subtraction process in our previous example is a case in which each digit of the subtrahend is less than to its corresponding digit in the minuend. Such process is called **subtracting numbers without regrouping**.

In the next example, we will show a case where the digits of the subtrahend are greater than their corresponding digits in the minuend. Cases like this will undergo **subtracting numbers with regrouping**.

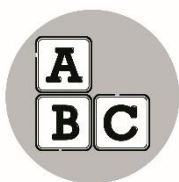
Example: $9\,547 - 658 = ?$

Subtract the ones. Regroup.	Subtract the tens. Regroup.	Subtract the hundreds. Regroup.	Subtract the thousands. Regroup.
$\begin{array}{r} 3 \quad 17 \\ 9\,5\cancel{4}\,\cancel{7} \\ - \quad 6\,5\,8 \\ \hline 9 \end{array}$	$\begin{array}{r} 13 \\ 4\,\cancel{5}\,17 \\ 9\,\cancel{8}\,\cancel{4}\,\cancel{7} \\ - \quad 6\,5\,8 \\ \hline 8\,9 \end{array}$	$\begin{array}{r} 14 \quad 13 \\ 8\,\cancel{5}\,\cancel{4}\,17 \\ 9\,\cancel{5}\,\cancel{4}\,\cancel{7} \\ - \quad 6\,5\,8 \\ \hline 8\,8\,9 \end{array}$	$\begin{array}{r} 14 \quad 13 \\ 8\,\cancel{5}\,\cancel{4}\,17 \\ 9\,\cancel{5}\,\cancel{4}\,\cancel{7} \\ - \quad 6\,5\,8 \\ \hline 8\,8\,8\,9 \end{array}$

The method above tells you how to subtract numbers with regrouping. The minuend is 9 547 and the subtrahend or the number to be subtracted is 658. The difference is 8 889.

In summary, **when subtracting numbers**, follow these simple steps:

- Step 1.** Align the digits properly by writing all the ones, tens, hundreds, and thousands in their respective columns.
- Step 2.** Start subtracting from the rightmost place to the leftmost place.
- Step 3.** Regroup whenever the digit in the subtrahend is greater than the digit in the minuend.



What's More

Subtract the following.

$$\begin{array}{r} 1. \quad 8\,537 \\ - 3\,154 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 7\,642 \\ - 4\,321 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 9\,752 \\ - 3\,863 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 6\,430 \\ - 551 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 762 \\ - 673 \\ \hline \end{array}$$



What I Have Learned

In subtracting 3 to-4 digit numbers from 3 to-4 digit numbers, be sure to align all the ones, tens, hundreds, thousands properly so that it will not be difficult for you to subtract.

1. The bigger or the larger number must be your minuend and be sure to write it on top or it must be written first.
2. The smaller or the lesser number must be written next or at the bottom of the larger number as the subtrahend.
3. Do not forget to regroup the ones, tens, hundreds, thousands, whenever the digit in your subtrahend is larger than its corresponding digit in the minuend.
4. Look back.

You need to check if your answer is correct. Add the difference and the subtrahend to be sure that your answer is correct. When the sum is congruent with your minuend, therefore your difference is right.



What I Can Do

Find what number is being asked.

1. What is the difference between 8 753 and 962?
2. What number is 320 less than 1 975?
3. Subtract 514 from 2 469?
4. What is 6 788 less than 899?
5. Take away 485 from 3 274.



Assessment

Fill in the box with the correct difference. Check your answer by adding your difference and the subtrahend. Do this on your paper.

1.) $8\,325$

$- 3\,124$

2.) $6\,546$

$- 3\,657$

3.) $7\,432$

$- 323$

4.) 843

$- 564$

5.) $10\,421$

$- 3\,210$



Additional Activities

Table of fruits harvested in a farm.

Fruits	Variety	Number of Fruits	Total
Mango	Apple Mango	568	1 011
	Carabao Mango		
Banana	Lakatan	443	
	Latundan		

Answer the questions below.

1. How many Apple Mangos are there if there are 253 Carabao Mangos?
2. How many Latundan bananas are there if there are 275 Lakatan bananas?
3. How many fruits are left when 253 Carabao Mangos were sold?
4. How many fruits are left when 275 Lakatan were sold?



Answer Key

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For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpdpd@deped.gov.ph