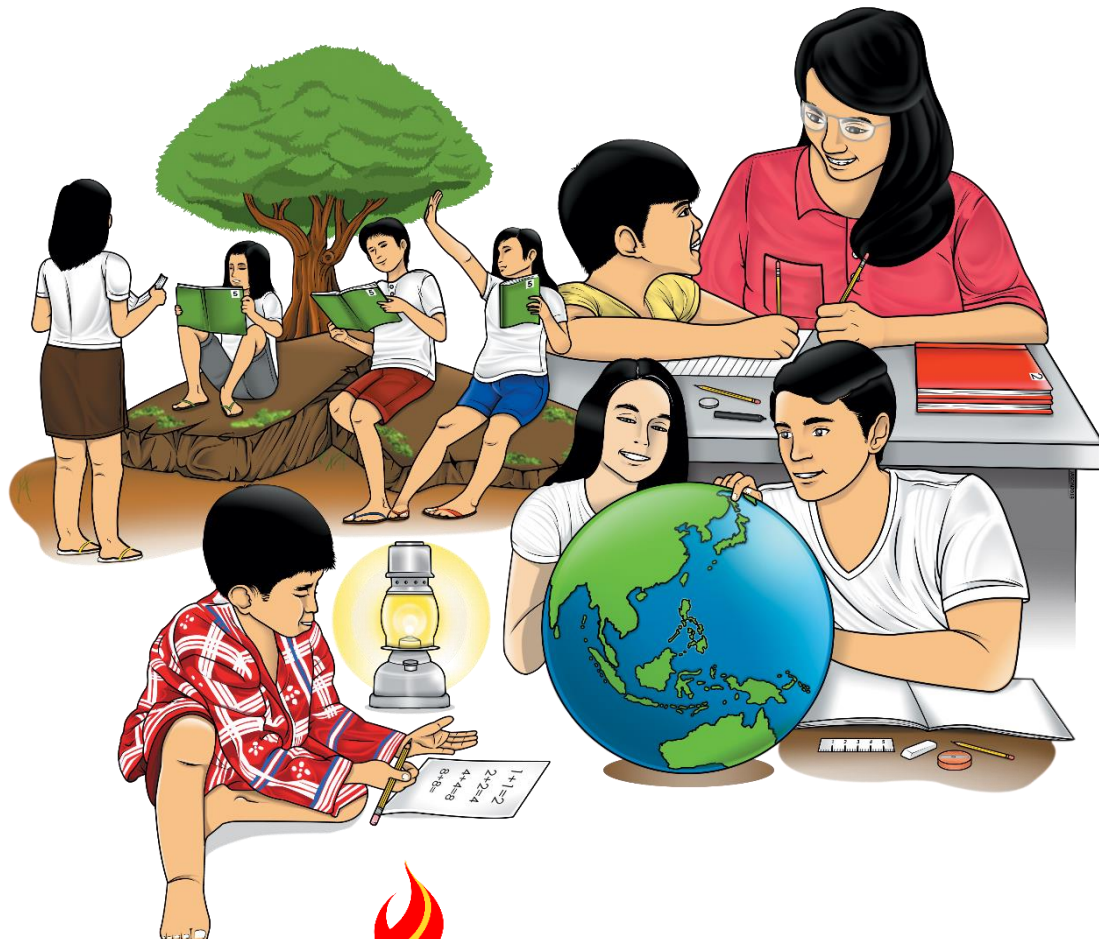


Mathematics

Quarter 1 – Module 14: Estimating the Differences of Two Numbers



Mathematics – Grade 3
Alternative Delivery Mode
Quarter 1 – Module 14: Estimating the Differences of Two Numbers
First Edition, 2020

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Development Team of the Module

Author: Iren C. Limit

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, Guillesar P. Villarente
Grace Mae G. Flores, Emelita L. Flores, Ana Lorma A. Dahiroc

Illustrators: Dennis Macaubos, Alfie Valenteros, Christian Loyd Alfuelto, 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 14:
Estimating the Differences
of Two 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. It is here to help you master on estimating the differences of two numbers with three to four digits with reasonable results. 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. Estimate the differences of two numbers with three to four digits with reasonable results. **(M3NS-Ih-36)**

Enjoy your journey. Good luck!



What I Know

Estimate the difference to the nearest hundreds.

1. $462 - 231 =$

2. $673 - 321 =$

3. $563 - 211 =$

4. $871 - 234 =$

5. $694 - 321 =$

Lesson

1

Estimates the Difference of Two Numbers with Three to Four Digits with Reasonable Results

In this module, you will learn how to estimate the differences of two numbers with three to four digits with reasonable results.



What's In

Can you still remember how to subtract 3 to 4-digit numbers from 3 to 4-digit numbers?

When subtracting numbers,

- * Align the digits according to their place values.
- * Start subtracting from one's place, then tens, and so on up to the digits in the highest place value.
- * Regroup whenever the digit in the minuend is less than the digit in the subtrahend.

Let's take a brief review.

Activity 1

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's New

Do you remember your previous lesson on estimating the sum?

We know that a certain problem is about estimating when the following keywords appear about, estimate, and approximately.

The process of estimating the difference is the same as estimating the sum. The process differs only on the operation being used.

In estimating sums, we follow the steps below.

Step 1. Round off the addends to the hundreds place.

Step 2. Add the rounded-off numbers.

This time, to estimate the difference let us follow the same steps but change the operation in Step 2 from add to subtract.

Can you do that?

Let us see how well you do it by performing the next activity.

Activity 2

1. Estimate the difference between 9 055 and 2 945.
2. Estimate the difference between 1 795 and 392.



What is It

To find the estimated difference, follow the example below.

Example: Estimate the difference between 2 786 and 515.

Step 1. Round off each number to its common greatest place value.

$$\begin{array}{r} 2\,786 \\ - \underline{515} \end{array} \quad \Rightarrow \quad \begin{array}{r} 2\,800 \\ - \underline{500} \end{array}$$

Step 2. Perform the subtraction operation.

$$\begin{array}{r} 2\,800 \\ - \underline{500} \\ \hline 2\,300 \end{array}$$

Sometimes, rounding off to the next lower place value gives a better estimate.

Example:

a. Estimating the difference by rounding off to the highest possible place value

$$\begin{array}{l} 6\,764 \text{ rounds off to } 7\,000 \rightarrow 7\,000 \\ - 3\,867 \text{ rounds off to } 4\,000 \rightarrow - \underline{4\,000} \\ \hline 3\,000 \end{array}$$

b. Estimating the difference by rounding off to the next lower place value

$$\begin{array}{l} 6\,764 \text{ rounds off to } 5\,900 \rightarrow 6\,800 \\ - 3\,867 \text{ rounds off to } 4\,200 \rightarrow - \underline{3\,900} \\ \hline 2\,900 \end{array}$$

$$\begin{array}{r} \text{Actual Difference: } 6\,764 \\ - 3\,867 \\ \hline 2\,897 \end{array}$$

Notice that **2 900** which is rounded off to the hundreds place is the nearest to the actual difference.



What's More

Activity 3

Estimate the difference.

1. 915 →	2. 458 →	3. 701 →	4. 3 896 →
- 406 →	- 288 →	- 195 →	- 299 →

Activity 4

Estimate the difference.

1. $5\,322 - 3\,421 =$

2. $4\,621 - 231 =$

3. $8\,214 - 3\,215 =$

Estimate the difference to the next lower place value.

4. $7\,312 - 4\,514 =$

5. $8\,913 - 2\,111 =$



What I Have Learned

To estimate the difference between two numbers,

Step 1. Round off each number to their common greatest place value.

Step 2. Subtract the rounded-off numbers.



What I Can Do

Activity 5

Estimate the difference.

$$\begin{array}{r} 1. \quad 5\,200 \\ - 3\,900 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 7\,806 \\ - \quad 657 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5\,845 \\ - \quad 589 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 791 \\ - 743 \\ \hline \end{array}$$



Assessment

Multiple Choice. Choose the letter of the correct answer.

1. What is the estimated difference of 5 556 and 428?
 - a.) 5 100
 - b.) 5 000
 - c.) 4 200
 - d.) 5 200

2. Which of the following shows the estimated difference of 4 567 and 2 156?
 - a.) 1 000
 - b.) 2 000
 - c.) 3 000
 - d.) 4 000

3. Which of the following gives an estimate of 2 000?
 - a.) $8\,125 - 5\,689$
 - b.) $8\,756 - 6\,250$
 - c.) $9\,456 - 7\,545$
 - d.) $9\,555 - 6\,975$

Solve the following problems.

4. Liza bought a second-hand laptop that costs ₱ 9 750. She used the money from her savings of ₱ 9 900. About how much was left from Liza's savings?

5. Janinah travels 2 447m from her house to the park. As she goes back home, she walks 382m to reach and stop at a store. Approximately, how far will Janinah have to travel to reach back home?



Additional Activities

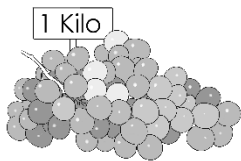
Mrs. Javier went to a grocery store. She bought the items below. Estimate how much change Mrs. Javier will receive if she pays ₱1 000 bill for each.



A sack of rice – ₱ 920



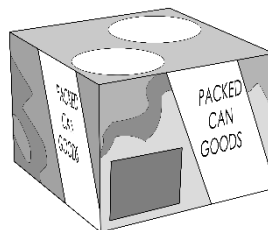
A dressed chicken – ₱ 225



A kilogram of grapes - ₱ 180



A kilogram of meat – ₱ 350



A pack of canned goods - ₱ 695



Answer Key

<p>Assessment</p> <p>1. D 2. C 3. A 4. 200 5. 2 000</p> <p>Additional Activities</p> <p>Change for each item: sack of rice - 100 dressed chicken - 800 grapes - 800 meat - 600 canned goods - 300</p>	<p>What I Can Do</p> <p>Activity 5</p> <p>1. 1 000 2. 5 200 3. 7 100 4. 100</p>	<p>What's More</p> <p>Activity 3</p> <p>1. 500 2. 200 3. 500 4. 3 600 Activity 4</p> <p>1. 2 000 2. 4 400 3. 5 000 4. 2 800 5. 6 800</p>
<p>What's New</p> <p>Activity 2</p> <p>1. 6 000 2. 1 400</p>	<p>What's In</p> <p>Activity 1</p> <p>1. 5 383 2. 3 321 3. 5 889 4. 5 879 5. 89</p>	<p>What I Know</p> <p>1. 200 2. 400 3. 400 4. 600 5. 400</p>

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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.lrpd@deped.gov.ph