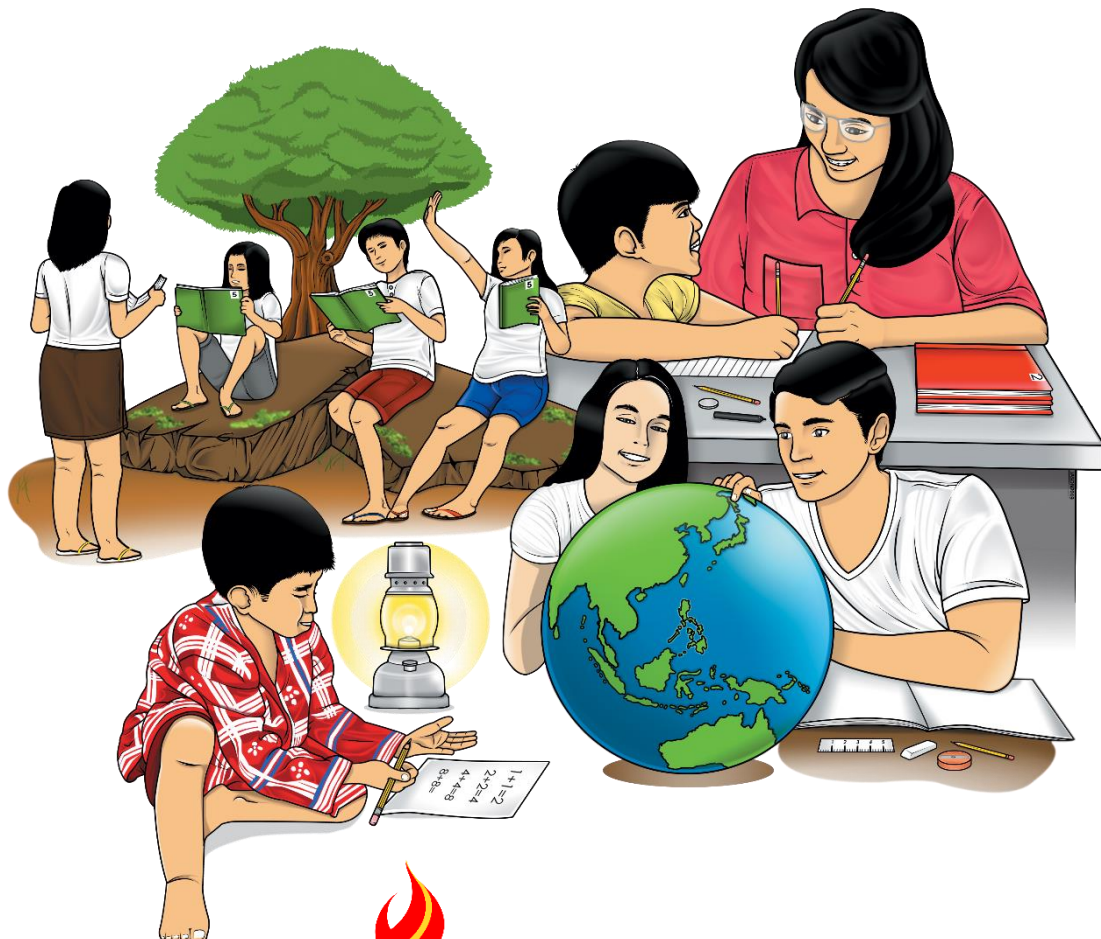


Mathematics

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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Mathematics

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

Introductory Message

For the facilitator:

Welcome to the Mathematics Alternative Delivery Mode (ADM) Module on **Estimating the Differences of Two 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 Mathematics Alternative Delivery Mode (ADM) Module on **Estimating the Differences of Two 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 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.

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

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 ones 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 key words appear: about, estimate and approximately.

The process on estimating the difference is the same process on 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 same steps but change the operation in Step 2 from add to subtract.

Can you do that?

Let us see how will 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.

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

Step 2. Perform the subtraction operation.

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

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

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

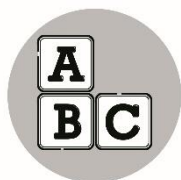
- b. Estimating the difference by rounding off to the next lower place value

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

Actual Difference:

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

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 →
- <u>406</u> →	- <u>288</u> →	- <u>195</u> →	- <u>299</u> →

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 of 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.

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

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

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

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



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

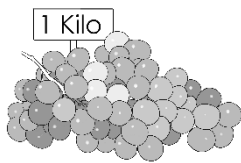
Mrs. Javier went to a grocery store. She bought the items below. Estimate how much change will Mrs. Javier will receive if she pays ₱1 000 bill for each.



A sack of rice – ₱ 920



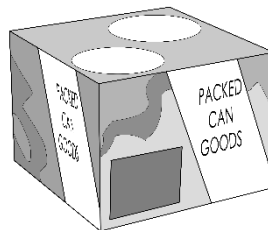
A dressed chicken – ₱ 225



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. 5 889 5. 89</p>	<p>What I Know</p> <p>1. 700 2. 1 000 3. 800 4. 1 100 5. 1 000</p>
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