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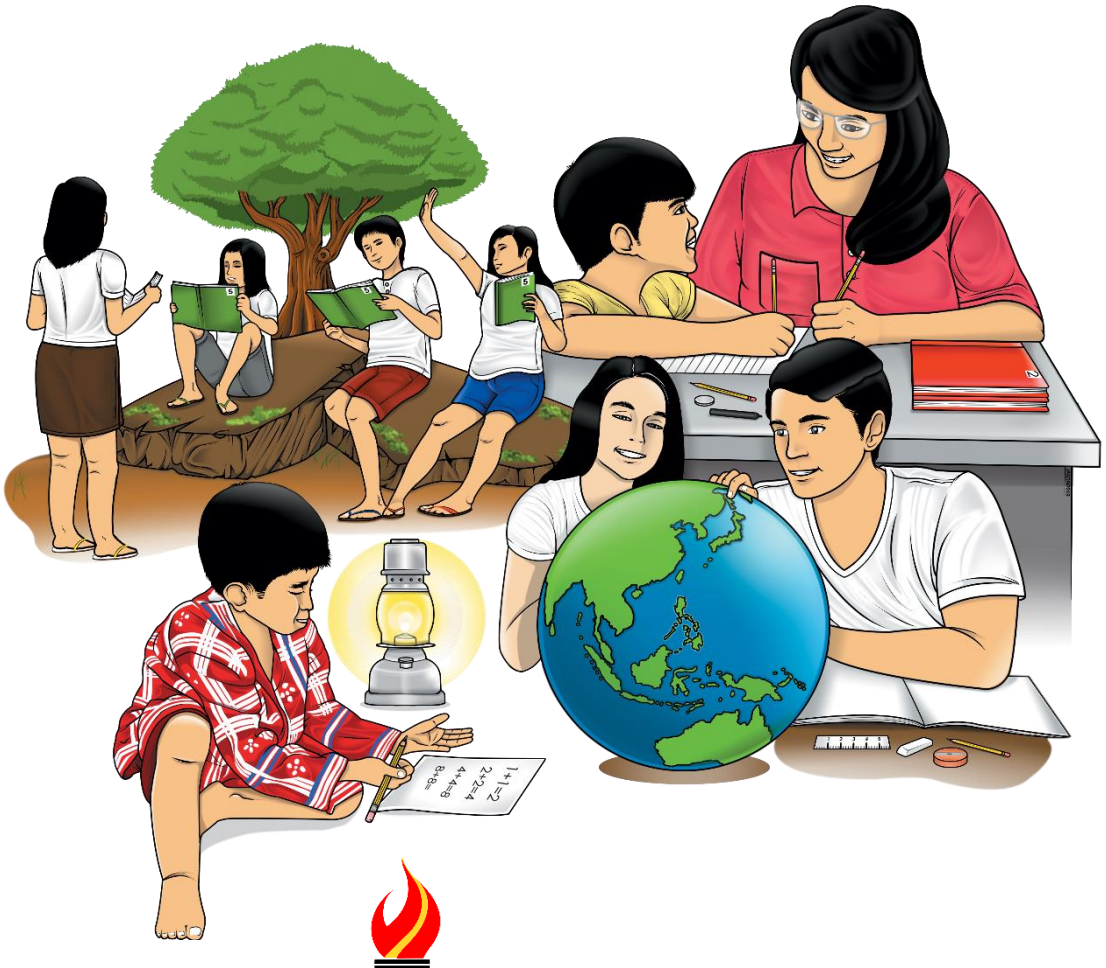
Mathematics

Quarter 1 – Module 11: Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without and With Remainder



ALTERNATIVE DELIVERY MODE
ADM

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Mathematics – Grade 4
Alternative Delivery Mode
Quarter 1 – Module 11: Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without and With Remainder
First Edition, 2020

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Mathematics

Quarter 1 – Module 11: Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without and With Remainder

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Introductory Message

For the facilitator:

Welcome to the Mathematics 4 Alternative Delivery Mode (ADM) Module on Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without and With Remainder!

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.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

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 4 Alternative Delivery Mode (ADM) Module on Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without and With Remainder!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled 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; 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

Have you ever wished you could divide numbers easily in your head without using paper and pencil? It may sound difficult, but would you believe that you can do it? This module will help you learn how to divide numbers mentally.

After going through this module, you are expected to:

- divide mentally 2- to 4-digit numbers by 10, 100 or 1 000 without and with remainder.

What I Know

Let us try to see what you know about dividing mentally 2- to 4-digit numbers by 10, 100 or 1 000 without and with remainder.

Remember to use a separate sheet for your answers.

Find each quotient mentally.

1. 50 ÷ 10 = _____
2. 300 ÷ 100 = _____
3. 9 000 ÷ 1000 = _____
4. 35 ÷ 10 = _____
5. 205 ÷ 100 = _____
6. 1 034 ÷ 1000 = _____
7. 451 ÷ 10 = _____
8. 792 ÷ 100 = _____
9. 2 135 ÷ 10 = _____
10. 8 734 ÷ 100 = _____

If you are done answering the activity, please go to the ***Answer Key*** on page 11 and check if your answers are correct.

Thank you for your honesty in answering and checking your work.

What's In

Let us review first some of the lessons that can help you understand the new concepts in this module.

Divide the following and fill each cross – number puzzle.

Across

b. 340 ÷ 10
d. 7 650 ÷ 15

Down

a. 65 ÷ 5
c. 4 631 ÷ 11
e. 48 ÷ 12

	A			
	B	c		
	D		e	

If you are done answering the activity, please go to the ***Answer Key*** on page 11 and check if your answers are correct.

Thank you for your honesty in answering and checking your work.

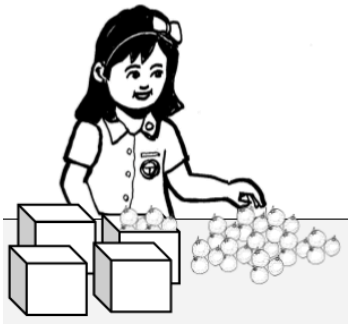
Notes to the Teacher

The activities may be supplemented and enhanced with games that will require learners to mentally perform division.

What's New

Let us start learning the new concept with the help of this story problem.

Read the story problem.



Andrea wants to give boxes of oranges to the frontliners of COVID-19 pandemic. How many boxes of 10 oranges each can she make if there are 5 000 oranges?

What are the given facts that can help you solve the problem?
What can you say about Andrea? What kind of person is she?

Try to solve the problem mentally.

The next part of this module will help you check if your answer is correct.

What is It

Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 Without Remainder

To find out how many boxes of oranges Andrea can make without using paper and pencil, remember the following:

- When a number is divided by 10, all its digits, except in the ones place, becomes the quotient.
- The digit at the ones place becomes the remainder, if there is any.

5 000 ÷ 10 = 500
quotient

So, 5 000 divided by 10 we get a quotient of 500.

Meaning, Andrea can make 500 boxes of 10 oranges each for the frontliners.

You will notice that there is no remainder since the digit at the ones place is **0**.

Did you also get the same answer? Yes? Good job!

What if Andrea puts 100 oranges in each box? How many boxes of 100 oranges each can she make with 5 000 oranges?

Let us try to solve the problem mentally. But first, you have to remember the following:

- When a number is divided by 100, all its digits, except in the tens and ones places, become the quotient.
- The number formed by the digits in the tens and ones places become the remainder, if there is any.

5 000 ÷ 100 = 50

quotient

So, 5 000 divided by 100 we get a quotient of 50.

You will notice that there is no remainder since the digits in the tens and ones places are both **0**.

Did you also get the same answer? Yes? Very good! You are now ready for the next one.

What if Andrea puts 1 000 oranges in each box? How many boxes of 1 000 oranges each can she make with 5 000 oranges?

Let us try to solve the problem mentally. Remember the following:

- When a number is divided by 1 000, all its digits, except in the hundreds, tens and ones places, become the quotient.
- The number formed by the digits in the hundreds, tens, and ones places becomes the remainder, if there is any.

5 000 ÷ 1 000 = 5

quotient

So, 5 000 divided by 1 000 we get a quotient of 5.

You will notice that there is no remainder since the digits in the hundreds, tens and ones places are all **0**.

Did you also get the same answer? Yes? Great!

Before we go to the next lesson, let us let us try to solve the problems mentally.

	÷ 10	÷ 100	÷ 1000
2 000			
8 000			

If you are done answering, compare your answer to the answers given below.

	÷ 10	÷ 100	÷ 1000
2 000	200	20	2
8 000	800	80	8

Did you also get the same answer? Yes? Great! You are now ready to learn how to divide mentally numbers by 10, 100 or 1 000 with remainder.

Are you ready? Let us start.

Dividing Mentally 2- to 4-Digit Numbers by 10, 100 or 1 000 With Remainder

Let us try to divide **3 472** by **10**.

Let us solve the problem mentally.

- When a number is divided by 10, all its digits, except in the ones place, becomes the quotient.
- The digit in the ones place becomes the remainder, if there is any.

3 472 ÷ 10 = 347 r. 2

quotient

So, 3 472 divided by 10 gives a quotient of 347 with a remainder of 2.

Did you also get the same answer? Yes? Good job!

Let us try to divide **3 472** by **100**.

Let us solve the problem mentally.

- When a number is divided by 100, all its digits, except in the tens and ones places, become the quotient.
- The number formed by the digits in the tens and ones places becomes the remainder, if there is any.
-

34 r. 72

3 472 ÷ 100 =

quotient

So, 3 472 divided by 100 is equal to a quotient of 34 with a remainder of 72.

Did you also get the same answer? Yes? Very Good!

Let us try to divide **3 472** by **1 000**.

Let us solve the problem mentally.

- When a number is divided by 1 000, all its digits, except in the hundreds, tens and ones places, become the quotient.
- The number formed by the digits in the hundreds, tens, and ones places becomes the remainder, if there is any.

3 r. 472

3472 ÷ 1 000 =

quotient

So, 3 472 divided by 1 000 gives a quotient of 3 with a remainder of 472.

Did you also get the same answer? Yes? Great!

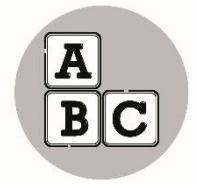
Before we go to the next exercise, let us let us try to solve the problems mentally.

	÷ 10	÷ 100	÷ 1000
1 205			
9 081			

If you are done answering, compare your answer to the answers given below.

	÷ 10	÷ 100	÷ 1000
1 205	120 r.5	12 r.5	1 r.205
9 081	908 r.1	90 r.81	9 r.81

Did you also get the same answer? Yes? Great! You are now ready to work with the problems independently.



What's More

Activity 1. Divide the numbers mentally by 10 and write your answers in your notebook.

1. 90 ÷ 10 =
2. 611 ÷ 10 =
3. 2 193 ÷ 10 =
4. 65 ÷ 10 =
5. 5 983 ÷ 10 =

Activity 2. Divide the numbers mentally by 100 and write your answers in your notebook.

1. 800 ÷ 100 =
2. 492 ÷ 100 =
3. 7 242 ÷ 100 =
4. 1 800 ÷ 100 =
5. 9 001 ÷ 100 =

Activity 3. Divide the numbers mentally by 1 000 and write your answer in your notebook.

1. 7 000 ÷ 1 000 =
2. 8 924 ÷ 1 000 =
3. 5 676 ÷ 1 000 =
4. 3 002 ÷ 1 000 =
5. 2 050 ÷ 1 000 =

If you are done answering the activity, please go to the ***Answer Key*** on page 11 and check if your answers are correct.

Thank you for your honesty in answering and checking your work.

What I Have Learned

Always remember:

1. In dividing mentally 2- to 4-digit numbers by 10
   - When a number is divided by 10, all its digits, except in the ones place, becomes the quotient.
   - The digit in the ones place becomes the remainder, if there is any.

2. In dividing mentally 2- to 4-digit numbers by 100
   - When a number is divided by 100, all its digits, except in the tens and ones places, become the quotient.
   - The number formed by the digits in the tens and ones places becomes the remainder, if there is any.

3. In dividing mentally 2- to 4-digit numbers by 1 000
   - When a number is divided by 1 000, all its digits, except in the hundreds, tens and ones places, become the quotient.
   - The number formed by the digits in the hundreds, tens, and ones places becomes the remainder, if there is any.

What I Can Do

Let us see if you are now ready to solve this problem.

Read and understand the problem, then answer the questions that follow.

John has 112–meter extra piece of rope after fixing their deep well. How many 10-meter rope can he cut from it?

1. What is asked in the problem?
2. What are the given facts that can help you solve the problem?
3. How will you solve the problem?
4. What is the answer to the problem?

Assessment

You are now ready for the next activity.

Divide the problems mentally and write your answer in your notebook.

1. 50 ÷ 10
2. 650 ÷ 100
3. 8 040 ÷ 1 000
4. 91 ÷ 10
5. 121 ÷ 100
6. 7 789 ÷ 1 000
7. 43 ÷ 10
8. 999 ÷ 100
9. 3 110 ÷ 100
10. 9 111 ÷ 10

If you are done answering the activity, please go to the ***Answer Key*** on page 11 and check if your answers are correct.

Thank you for your honesty in answering and checking your work. Congratulations!

Additional Activities

Let us try some more. Solve the following problems.

1. How many 100-peso bill will there be in ₱ 7 654? How much will be the remainder?
2. Mrs. Dela Cruz has ₱ 9 095. She wants to give it to the families affected by the Enhanced Community Quarantine (ECQ) in her community. How much will each of the family receive if she decides to give it to 10 families? How much money will be left?

Answer Key

What I Know *(pages 1 and 2)*

1. 5
2. 3
3. 9
4. 3 r. 5
5. 2 r. 5
6. 1 r. 34
7. 45 r. 1
8. 7 r. 92
9. 213 r. 5
10. 87 r. 34

What's In *(page 2)*

What's More *(pages 7 and 8)*

Activity 1

1. 9
2. 61 r. 1
3. 219 r. 3
4. 6 r. 5

Activity 2

1. 8
2. 4 r. 92
3. 72 r. 42
4. 18

Activity 3

1. 7
2. 8 r. 924
3. 5 r. 676
4. 3 r. 2

				a	1		
				b	3	c	4
							2
				d	5	e	0
							4

5. 598 r. 3
5. 90 r. 1
5. 2 r. 50

What I Can Do *(page 9)*

1. How many 10m can be cut from the remaining rope?
2. 112m and 10m
3. 112 ÷ 10 = ____
4. 11 ropes

Assessment *(page 9)*

1. 5
2. 6 r. 50
3. 8 r. 40
4. 9 r. 1
5. 1 r. 21
6. 7 r. 789
7. 4 r. 3
8. 9 r. 99
9. 31 r. 10
10. 911 r. 1

Additional Activities *(page 10)*

1. There will be 76 100-peso bills.
   The remainder is P54.
2. Each family will receive P909.
   There will be P5 left.

References

K to 12 Mathematics Curriculum Guide, August 2016

Mathematics 4 Learner's Material

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