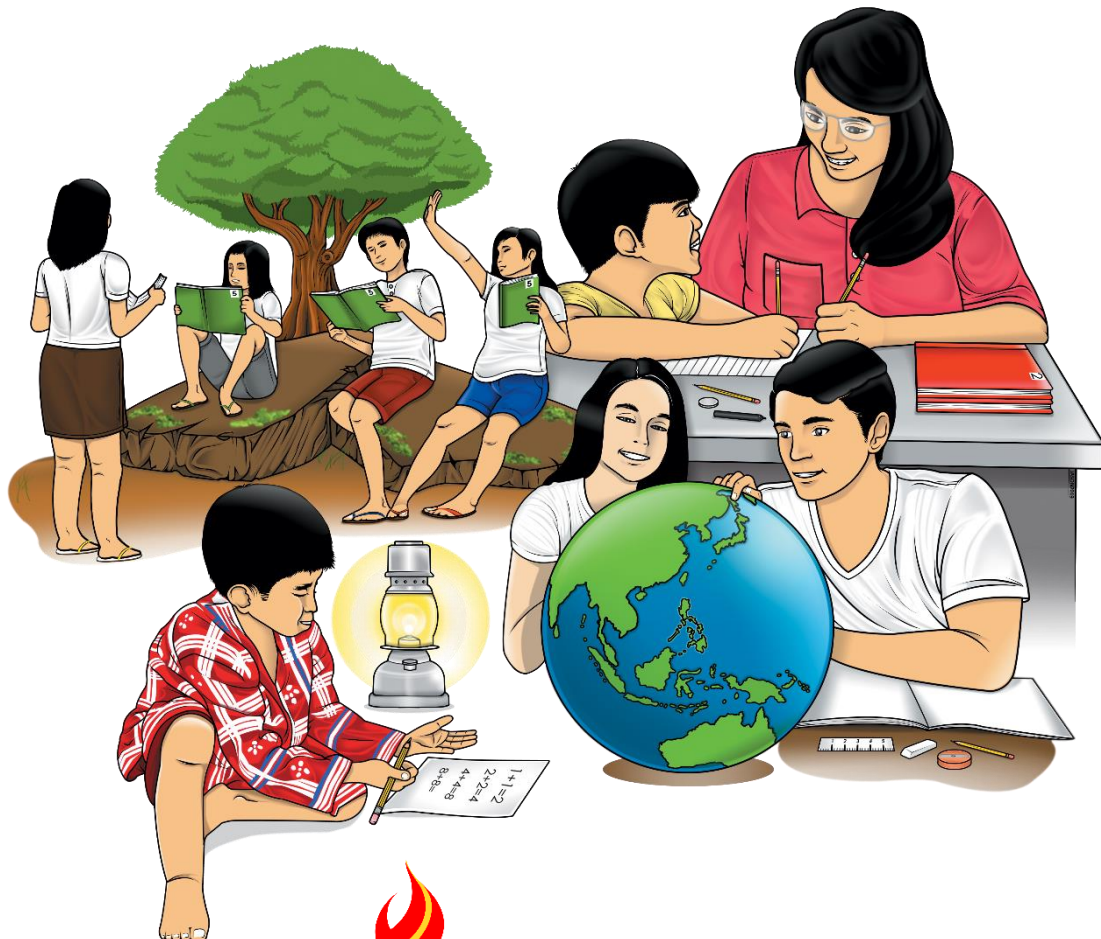


Mathematics

Quarter 2 – Module 11(a):

Dividing 2- to 3-Digit Numbers by 1-Digit Numbers



Mathematics – Grade 3
Alternative Delivery Mode
Quarter 2 – Module 11a: Dividing 2- to 3-Digit Numbers by 1-Digit Numbers
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Mathematics

Quarter 2 – Module 11(a):
Dividing 2- to 3-Digit Numbers by
1-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. It is here to help you master on dividing 2- to 3-digit numbers by 1-digit number without or with remainder. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. 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 textbook you are now using.

After going through this module, you are expected to:

- divide 2- to 3-digit numbers by 1-digit numbers without or with remainder.

Enjoy your journey. Good luck!



What I Know

Choose the letter of the correct answer. Write your answer on your notebook or on a separate answer sheet.

1. What is $72 \div 3$?

- a. 21 b. 22 c. 23 d. 24

2. What is the remainder if you divide 651 by 8?

- a. 3 b. 2 c. 5 d. 4

3. What is the quotient when 205 is divided by 5?

- a. 40 b. 41 c. 42 d. 43

4. Find the quotient: $753 \div 6$

- a. 125 r. 3 b. 152 r. 2 c. 125 r. 3 d. 123 r. 5

5. Solve: $3 \overline{)96}$

- a. 32 b. 33 c. 34 d. 35

Lesson 1

Divides 2- to 3-digit Numbers by 1-digit Numbers without or with Remainder

Counting and computing numbers have been part of your day to day activities at home or in school. In this module, you will learn how to divide 2- to 3-digit numbers with 1-digit number without or with regrouping.



What's In

Before we proceed to the main course of our lesson, let us first check your mastery on the previous lesson on dividing one to two-digit number by one-digit number.

Activity 1

Supply the missing number to complete the division sentence. Write your answer on your notebook or on a separate answer sheet.

1. $7 \div 7 = \underline{\quad}$

2. $6 \div \underline{\quad} = 3$

3. $28 \div 4 = \underline{\quad}$

4. $48 \div 8 = \underline{\quad}$

5. $\underline{\quad} \div 9 = 7$



What's New

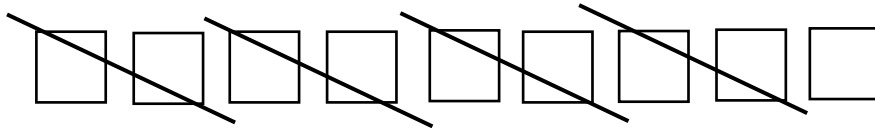
In Activity 1, notice that the quotient are all whole numbers. This means that the dividend can be divided by its divisor into exact whole number. These kind of division processes are called as **dividing without remainder**.

Remainder is the amount left over after dividing a number by a divisor. A remainder is always lesser than the divisor. Below is an example of **dividing numbers with remainder**.

Example: $9 \div 2 = ?$

Solution:

Visualizing the division fact using boxes,



After crossing 4 pairs of boxes, the remaining 1 box is called the **remainder**.

So, we write **$9 \div 2 = 4$ remainder 1** or **$9 \div 2 = 4$ r. 1**.

We write "r." for short of the word "remainder".

Activity 2

Divide the following by visualization. Write your answer on your notebook or on a separate answer sheet.

1. $5 \div 2 =$ _____

2. $17 \div 3 =$ _____

3. $30 \div 4 =$ _____



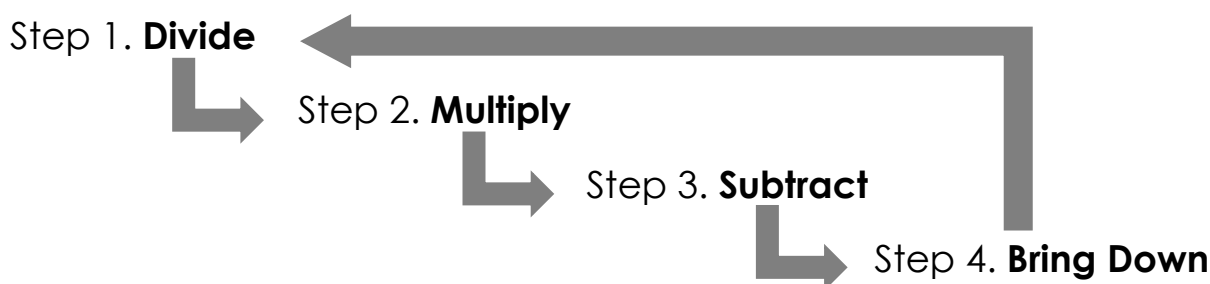
What is It

We solved the division facts in Activity 2 through visualization. What if the numbers to be divided involves large number like 2- to 3-digit numbers? Is dividing by visualizing still applicable?

The answer is yes but obviously difficult because the larger the number the harder to visualize.

In dividing whole numbers which involve large numbers, we use the **Long Division**.

The following cycle are the steps for long division:



The cycle will only stop when the value in step 4 is lesser than the divisor.

Example: Divide 478 by 3.

Solution:

Step 1: Write the division sentence using the symbol “ $\overline{\hspace{1cm}}$ ”.

Place the dividend inside the symbol and the divisor on its left.

$$3 \overline{)478} \quad \text{read as “478 divided by 3”}$$

Divide the leftmost digit of the dividend to the divisor.

$$\begin{array}{r} 1 \\ 3 \overline{)478} \end{array} \quad 4 \div 3 = \textcircled{1} \text{ r. } 1$$

Place the whole number quotient above

Step 2: Multiply the partial quotient and the divisor and write the answer right below the digit.

$$\begin{array}{r} 1 \\ 3 \overline{)478} \\ \underline{3} \end{array} \quad 1 \times 3 = 3$$

Step 3: Subtract the product from the leftmost digit.

$$\begin{array}{r} 1 \\ 3 \overline{)478} \\ \underline{-3} \\ 1 \end{array} \quad 4 - 3 = 1$$

Step 4: Bring down the next to the right.

$$\begin{array}{r} 1 \\ 3 \overline{)478} \\ \underline{-3} \downarrow \\ 17 \end{array}$$

Repeat the cycle (**divide – multiply – subtract – bring down**) until all the digits in the dividend are used up.

Divide

$$\begin{array}{r} 15 \\ 3 \overline{)478} \\ \underline{-3} \\ 17 \end{array} \quad 17 \div 3 = 5 \text{ r.2}$$

Multiply

$$\begin{array}{r} 15 \\ 3 \overline{)478} \\ \underline{-3} \\ 17 \\ \underline{15} \end{array} \quad 5 \times 3 = 15$$

Subtract

$$\begin{array}{r} 15 \\ 3 \overline{)478} \\ \underline{-3} \\ 17 \\ \underline{-15} \\ 2 \end{array}$$

Bring down

$$\begin{array}{r} 15 \\ 3 \overline{)478} \\ \underline{-3} \\ 17 \\ \underline{-15} \\ 28 \end{array}$$

Continuing the cycle (**divide – multiply – subtract – bring down**)

$$\begin{array}{r} 159 \longrightarrow \text{quotient} \\ 3 \overline{)478} \\ \underline{-3} \\ 17 \\ \underline{-15} \\ 28 \\ \underline{-27} \\ 1 \longrightarrow \text{with remainder} \end{array}$$

Answer: **$478 \div 3 = 159 \text{ r.1}$**

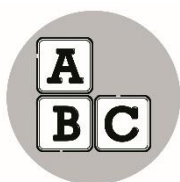
Another Example: $87 \div 3 = ?$

Solution:

Doing the cycle (**divide – multiply – subtract – bring down**),

$$\begin{array}{r} 29 \longrightarrow \text{quotient} \\ 3 \overline{)87} \\ \underline{-6} \\ 27 \\ \underline{-27} \\ 0 \longrightarrow \text{without remainder} \end{array}$$

Answer: **$87 \div 3 = 29$**



What's More

Activity 3

Find the quotient. Show your solution in your notebook.

1. $54 \div 8 =$ _____

2. $76 \div 4 =$ _____

3. $331 \div 7 =$ _____

4. $502 \div 5 =$ _____

5. $912 \div 3 =$ _____



What I Have Learned

The steps in dividing 2-to-3- digit numbers by 1-digit numbers using long division method are the following:

Step 1: Divide the digit/s by the divisor. Write the partial quotient right above the dividend.

Step 2: Multiply the partial quotient and the divisor and write the answer right below the digit.

Step 3: Subtract

Step 4: Bring down the next or last digit.

Repeat the previous steps (*divide – multiply – subtract – bring down*) until all the digits in the dividend are used up.

The quotient is the number above the long division symbol and the remainder is the last value in step 4.



What I Can Do

Activity 4

Fill in the table with correct information in each column. Show your solution in your notebook using Long Division.

1. $83 \div 5$
2. $133 \div 4$
3. 670 divided by 9
4. $632 \div 4$
5. $58 \div 2$

Dividend	Divisor	Quotient	Remainder



Assessment

Answer the following. Show your solution in your notebook.

1. Divide: $92 \div 4$

2. 96 divided by 7 is what?

3. $258 \div 6 =$ _____

4. Find the quotient: $708 \div 8$

5. Eight hundred sixty-three divided by nine is equal to _____.



Additional Activities

Activity 5

Use any of the digits: 0, 3, 6 or 7 to come up with 2-digit numbers and two 3-digit numbers. Divide the number using the given divisor.

2-digit number	Divisor	Quotient	Remainder
1.	4		
2.	6		
3-digit number			
3.	7		
4.	9		



Answer Key

<p>Additional Activity</p> <p>Answers may vary</p>	<p>Assessment</p> <ol style="list-style-type: none"> 23 13 r.5 43 88 r.4 95 r.8 	<p>What I Can Do</p> <ol style="list-style-type: none"> 83, 5, 16, 3 133, 4, 33, 1 670, 9, 74, 4 632, 4, 158, 0 58, 2, 29, 0
<p>What's More</p> <p>Activity 3</p> <ol style="list-style-type: none"> 6 r.6 19 47 r.2 100 r.2 304 	<p>What's In</p> <p>Activity 1</p> <ol style="list-style-type: none"> 1 2 7 6 63 <p>What's New</p> <p>Activity 2</p> <ol style="list-style-type: none"> 2 r.1 5 r.2 7 r.2 	<p>What I Know</p> <ol style="list-style-type: none"> d a b a a

References

Grade 3 Math Learner's Material in Mathematics, pages 181-185

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