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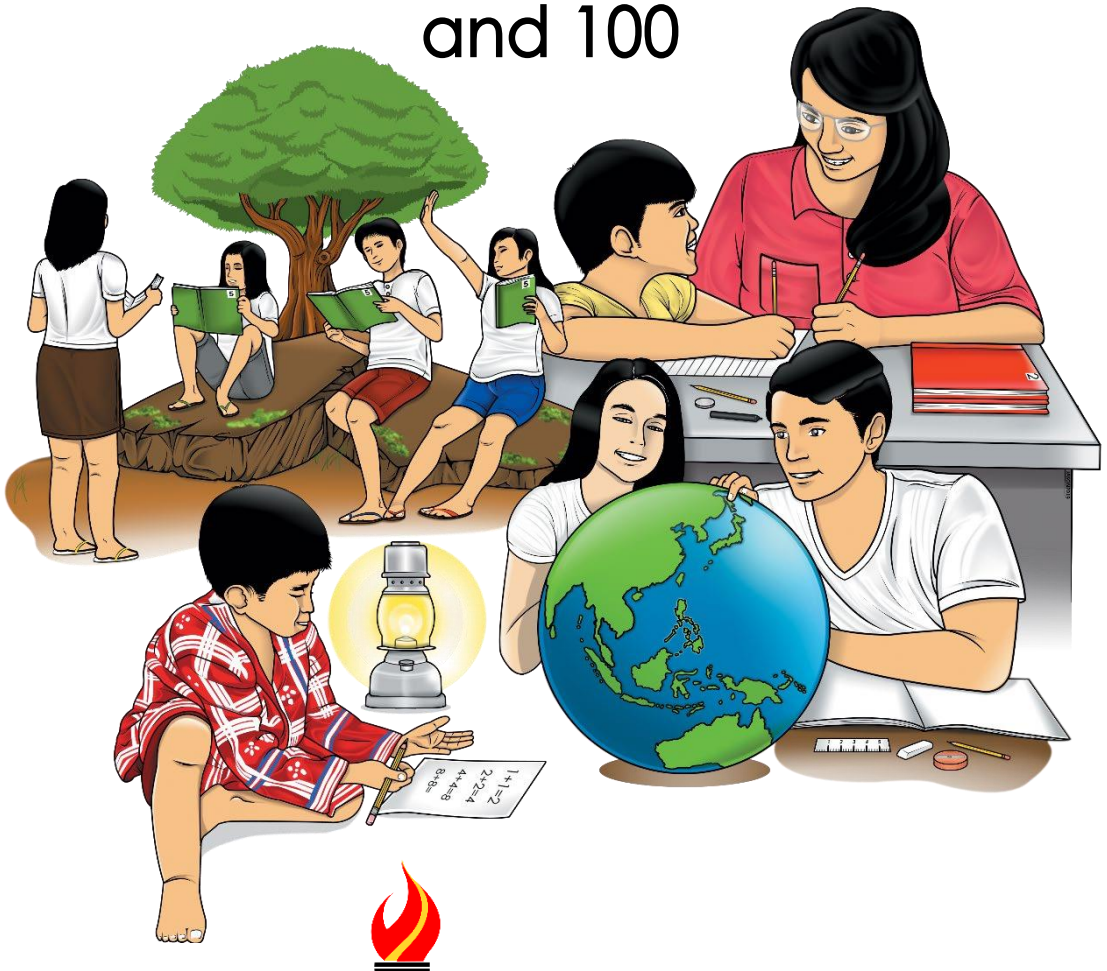
Mathematics

Quarter 2 – Module 11(b): Dividing 2 to 3 Digit Numbers by 10 and 100



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Secretary: Leonor Magtolis Briones
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Development Team of the Module

Author: Aida Batonon De Vera

Editors: Arnel S. Zaragosa, Jeremias C. Ceniza, Gina F. Silvestre, Ph.D., Elma C. Prudente, Annie Fel Lingatong

Reviewers: Edgardo Dondon S. Lorenzo, Ailyn V. Ponce, Emily A Paller, Eduardo Eroy

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

Layout Artist: Edsel D. Doctama

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, Maria Liza I. Berandoy, 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

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Mathematics

Quarter 2 – Module 11b:
Dividing 2 to 3 Digit Numbers by 10 and 100

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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 youwill 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 10 and
100. 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 tofollow 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 10 and 100.

Enjoy your journey. Good luck!

What I Know

Write the letter of the correct answer.

1. What is 70 ÷ 10?
   a. 5 b. 6 c. 7 d. 8

2. What is the remainder if you divide 651 by 10?
   a. 1 b. 2 c. 3 d. 4

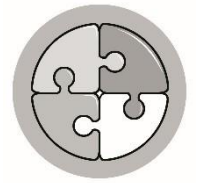
3. What is the quotient when 205 is divided by 100?
   a. 1 r. 2 b. 2 r. 2 c. 2 r. 4 d. 2 r. 5

4. Find the quotient: 750 ÷ 100
   a. 7 r. 3 b. 7 r. 5 c. 7 r. 50 d. 7 r. 53

5. Solve: $10\overline{)96}$
   a. 6 r. 9 b. 9 r. 6 c. 9 r. 9 d. 6 r. 6

Lesson Divides 2 to 3 Digit Numbers by 10 and 100

In your previous lesson, you learned how to divide 2- to 3-digit numbers by 1-digit number. In this module, you will be dividing 2-to 3-digit numbers by 10 and 100.



What's In

Since division is an inverse operation of multiplication, it is important to master the rules in multiplying numbers by 10 and100.

Activity 1

Fill in table by multiplying the given number by 10 and 100.

Given	Multiply 10	Multiply by 100
2	20	200
3	30	300
4		
5		
6		
7		
8		
9		

Notes to the Teacher

Use the provided answer sheet for the activities: What I know,What's In, What's More, Assessment and Additional/Supplemental Activities

What's New

A civic organization received a donation of 200 bottles of mineralwater for the victims of Typhoon Pablo in Cateel, Davao Oriental.The bottles of mineral water will be distributed equally among 10families. How many bottles of mineral water would each family receive?

Can you help them find ways on how to distribute the number ofbottles equally among 10 families?

What is It

Let us find 200 divided by 10.

We can solve this in three different ways:

1. Use of family of multiplication and division facts	2. Cross out Method/Short cut method	3. Long Method
2x1=2 → 2÷1=2 20x1=20→20÷10=2 20x10=200→**200÷10=20** Each Family will receive 20 bottles ofmineral	Cross out zeros to make division easier 200÷10 Cross out the same number of zeros in both the dividend and divisor to have 20÷1 = **20.** So, **200 ÷ 10 = 20**	20 10 ⟌ 200 - 20 20 0 - 0 0 Remember that0 ÷ 10 = 0 because 0 x 10 = 0. So, **200 ÷ 10 = 20**

Which method would you think is easier to use? Why?

Notice that the solution is an example of ***dividing numbers without remainder***.

When the dividend is in multiples of 10 and 100 then, Cross-out Method would be easier to use.

However, when the process involves ***dividing with remainder*** then long division is appropriate to use.

Let us have more examples.

Let us find 423 ÷10 42 r. 3 10 | 423 - 40 23 - 20 3 There are no digits left to divide, so 2 cannot be dividedby 10, so 2 is the remainder. The answer is 4 remainder 2.	Let us find 825 ÷ 10. 82 r. 5 10 | 825 - 800 25 - 20 5 What have you observed? When a 3-digit number **(825)** isdivided by 10, the quotient is the rightmost 2 digits of the dividend **(82)** and the remainder is the remaining digit**(5)**. So, **825 ÷ 100 = 82 r. 5**

Let us divide 69÷10 6 r. 9 10 | 69 - 60 9 What have you observed? When a 2-digit number **(69)** is divided by 10, the quotient is the digit in the tens place **(6)** and the remainder is the digit in the ones place **(9)**. So, **69 ÷ 10 = 6 r. 9**	Let us divide 535÷100 5 r. 35 100 | 535 - 500 35 What have you observed? When a 3-digit number **(535)** is divided by 100, the quotient is the digit in the hundreds place **(5)** and the remainder is theremaining 2 digits **(35)**. So, **535 ÷ 100 = 5 r. 35**

Observe the following numbers when divided by 10.

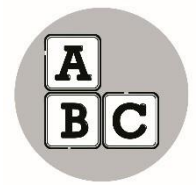
Dividend	Divisor	Quotient
89	10	8 r .9
590	10	59
347	10	34 r. 7

Observe the following numbers when divided by 100.

Dividend	Divisor	Quotient
800	100	8
970	100	9 r 70
874	100	8 r 74

Did you now see the pattern?

Let us practice by doing the next activity.



What's More

Activity 2

Find the quotient.

Dividend	Divisor	Quotient
80	10	
97	10	
400	10	
701	10	
600	100	
320	100	
905	100	
583	100	

What I Have Learned

To divide 2- to 3-digit numbers by 10 and 100, the following method can be used:

- ✓ When the dividend is a multiple of 10 or 100, cancel thesame number of zeros from both the dividend and the divisors to reduce the divisor into 1.

- ✓ When the dividend is not a multiple of 10, use the longdivision.

- ✓ A shortcut method can also be used as a general rule.

    - When a 2-digit number is divided by 10, the quotient isthe digit in the tens place and the remainder is the digitin the ones place.

    - When a 3-digit number is divided by 10, the quotient isthe rightmost 2 digits of the dividend and the remainderis the remaining ones digit.

    - When a 3-digit number is divided by 100, the quotient is the digit in the hundreds place and the remainder is theremaining 2 digits.

What I Can Do

Activity 3

Find the quotient then encircle the answer in the box. To find theanswer, you may move down, across or diagonally.

1. 560÷10

2. 800÷100

3. 430÷10

4. 750÷10

5. 620÷10

6. 810÷10

7. 400÷10

8. 670÷10

9. 120÷10

10. 90÷10

9	6	1	5	4
0	3	2	6	3
5	4	0	2	7
8	6	6	1	7
7	1	3	0	5

Write here your answer.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Assessment

Write the letter of the correct answer.

1. What is 30 ÷ 10?
   a. 2 b. 3 c. 4 d. 5

2. What is the remainder if you divide 857 by 10?
   a. 6 b. 7 c. 5 d. 8

3. What is the quotient when 604 is divided by 100?
   a. 4 r. 2 b. 5 r. 2 c. 6 r. 4 d. 6 r. 0

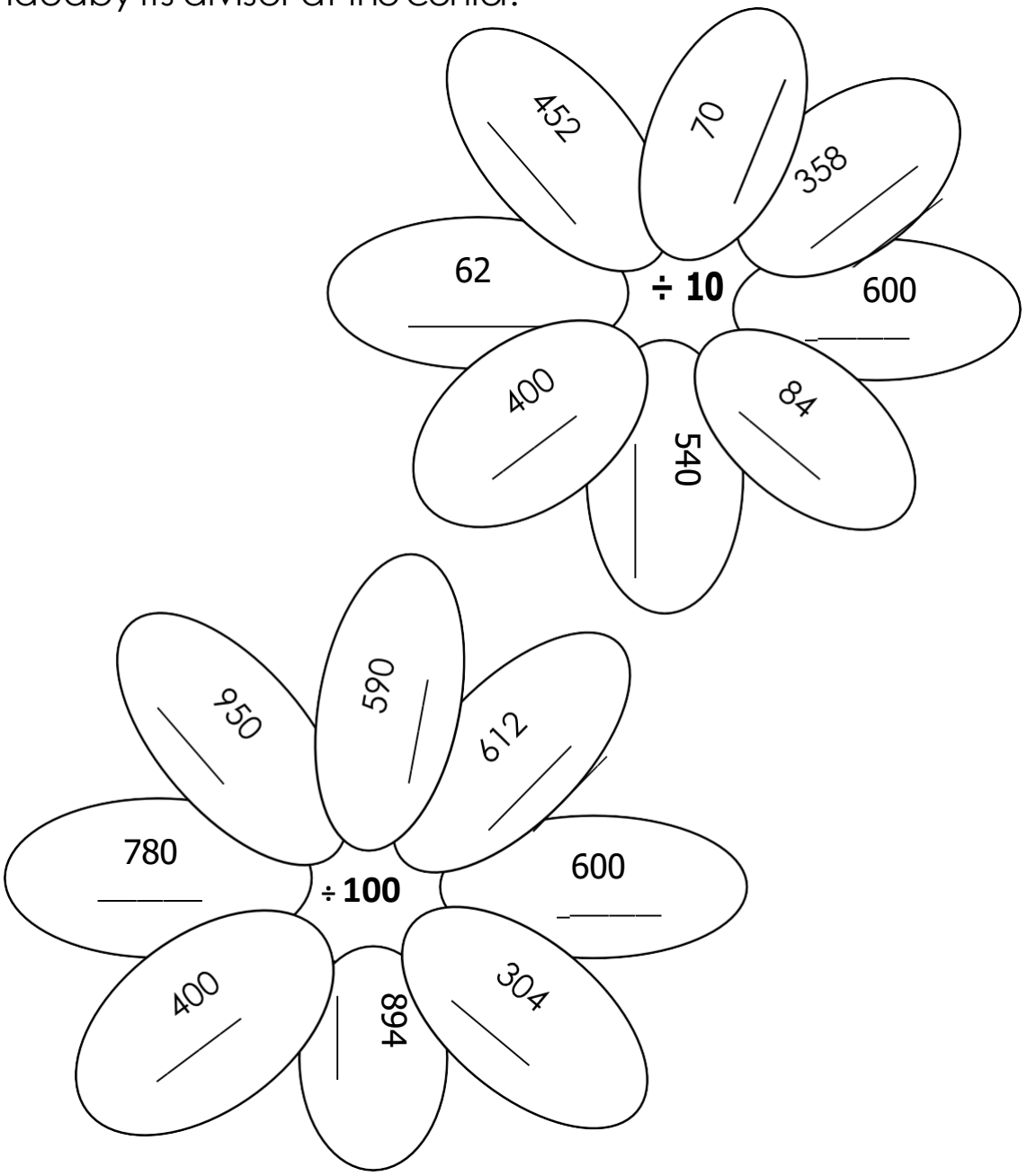
4. Find the quotient: 953 ÷ 100
   a. 9 r. 30 b. 9 r. 50 c. 9 r. 53 d. 9 r. 35

5. Solve: $10\overline{)55}$
   a. 5 r. 5 b. 5 r. 1 c. 5 r. 6 d. 6 r. 5

Additional Activities

Activity 4

Write the quotient on the blank when the petal number is dividedby its divisor at the center.



Answer Key

What I Know

1. C
2. A
3. D
4. C
5. B

What's In

40	400
50	500
60	600
70	700
80	800
90	900

What's More

Activity 2

8
9 r.7
40
70 r. 1
6
3 r. 20
9 r. 5
5 r. 83

What I Can DO

Activity 3

1. 56
2. 8
3. 43
4. 75
5. 62
6. 81
7. 40
8. 67
9. 12
10. 9

Assessment

1. B
2. B
3. C
4. C
5. A

Additional Activity

Flower 1 (clockwise)

6 r 2
45 r 2
7
35 r 8
60
8 r 4
54
40

Flower 2 (clockwise)

7 r 80
9 r 50
5 r 90
6 r 12
6
3 r 4
8 r 94
4

References

Mathematics - Grade 3, Teacher' Guide, First Edition 2015, pp 229- 235.

Mathematics – K to 12 Grade 3 Learner's Material in Mathematics,2015, pp 194-197.

https://www./Division by 10, 100 and 1 000/Division Process (Factsabout Division)

https://ctcmath.com 4th Grade: Dividing by 10, 100, 1 000

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