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Mathematics

Quarter 1 – Module 1: Divisibility Rules for 2, 5, and 10

ALTERNATIVE DELIVERY MODE
ADM

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Mathematics – Grade 5
Alternative Delivery Mode
Quarter 1 – Module 1: Divisibility Rules for 2, 5, and 10
First Edition, 2020

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Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

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Printed in the Philippines by _____

Department of Education – Region VIII

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Quarter 1 – Module 1: Divisibility Rules for 2, 5, and 10

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Introductory Message

For the Facilitator:

Welcome to the Mathematics Grade 5 Alternative Delivery Mode (ADM) Module 1 on Divisibility Rules for 2, 5, and 10!

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 to 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 5 Alternative Delivery Mode (ADM) Module 1 on Divisibility Rules for 2, 5, and 10!

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 is composed of a 10-item activity 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 fill in the blank sentence/paragraph to process what you have learned from the lesson.
What I Can Do	This section provides an activity that will help you transfer your new knowledge or skill in real-life situations or concerns.

	Assessment	This is another 10-item task that 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/s 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.

Should 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 a deep understanding of the relevant competencies. You can do it!

What I Need to Know

This module will help you gain knowledge in solving problems involving the divisibility rules for 2, 5, and 10 to find common factors of numbers. The activities and exercises are arranged to follow the standard sequence of the lessons.

After going through this module, you are expected to:

1. list down factors of numbers divisible by 2, 5, and 10;
2. use divisibility rules for 2, 5, and 10 to find common factors of numbers; and
3. appreciate the use of divisibility rules to find common factors of numbers.

What I Know

Challenge yourself to take the test below.

Directions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1) Whole numbers ending in 0,2,4,6 and 8 are called _____ numbers.
   A. even B. odd C. prime D. composite

2) 542 is divisible by _____.
   A. 2 B. 5 C. 4 D. 10

3) A whole number ending in 5 is divisible by _____.
   A. 2 B. 5 C.6 D. 10

4) Whole numbers ending in 0 are divisible by_____.
   A. 2, 5, 10 B. 2, 4, 8 C. 3, 6, 9 D. 3, 5, 9

5) Whole numbers ending in 0,2,4,6, or 8 are divisible by _____.
   A. 2 B. 5 C. 6 D.10

6) 16 and 30 are both divisible by _____.
   A. 2 B. 5 C. 10 D. 2, 5, 10

7) 725 can be divided by _____
   A. 2 B. 5 C. 10 D. 2, 5, 10

8) Which of the following is divisible by both 5 and 10?
A. 25 B. 75 C. 125 D. 200

9) 460 is divisible by _____
A. 2 only B. 5 only C. 10 only D. 2, 5, and 10

10)_____ is divisible by both 2 and 5.
A. 25 B. 40 C. 52 D. 75

Lesson 1 Using Divisibility Rules for 2, 5, and 10 to Find Common Factors

A number is **divisible** by another number if there is no remainder. A **divisibility rule** is a general rule that is used to determine whether or not a number is divisible by another number. The divisibility rules for 2, 5 and 10 are grouped together because they all require checking the ones digit of the whole number.

Learning how to use these rules will help you find common factors of numbers easily. Common factors are factors that are the same for two or more numbers.

What's In

Directions: Identify whether the given number is divisible by 2, 5 or 10. Do this in your answer sheet.

Number 1 is done for you.

__2__ 1) 18
_____2) 125
_____3) 30
_____4) 344
_____5) 650

What's New

Divisibility Rules for 2, 5, and 10

When is a number divisible by 2?

A number is divisible by 2 if it is even, or ends in 0, 2, 4, 6 or 8.

Why is 20 is divisible by 2?
2<u>0</u> is an even number because it ends in 0. So, 20 is divisible by 2.

Study the table below. Find out why the given numbers are divisible by 2, 5 or 10.

Numbers Divisible by					
2		**5**		**10**	
20	14	65	30	60	100
28	88	25	95	110	140
24	112	200	255	90	220
326	50	80	440	240	30
532	406	105	125	530	330

Knowing the divisibility rules for 2, 5, and 10 will help you find the factors of a number just by examining its ones digit.

What Is It

How do we know if a number is divisible by 2, 5 or 10?

Divisibility Rule for 2

A number is divisible by 2 if the ones digit of the number is 0, 2, 4, 6 or 8.

Example 1: 436 is divisible by 2 because its ones digit is 6.

Divisibility Rule for 5

A number is divisible by 5 if the ones digit of the number is 0 or 5.

Example 2: 225 is divisible by 5 because its ones digit is 5.

Divisibility Rule for 10

A number is divisible by 10 if the ones digit of the number is 0.

Example 3: 720 is divisible by 10 because the ones digit is 0.

Now, using the divisibility rules for 2, 5 and 10, let us find the common factors of 20 and 40.

Factors of 20:

20 ÷ 1 = 20
20 ÷ 2 = 10 (20 is divisible by 2 because it is even.)
20 ÷ 5 = 4 (20 is divisible by 5 because it ends in 0.)
*Therefore, the factors of 20 are **1**, **2, 4, 5, 10,** and **20**.*

Factors of 40:

40 ÷ 1 = 40
40 ÷ 2 = 20 (40 is divisible by 2 because it is even.)
40 ÷ 5 = 8 (40 is divisible by 5 because it ends in 0.)
40 ÷10 = 4 (40 is divisible by 10 because it ends in 0.)
*Therefore, the factors of 40 are **1**, **2, 4, 5, 8, 10, 20,** and **40**.*

Listing these factors, we have:

Factors of 20: 1, 2, 4, 5, 10, 20
Factors of 40: 1, 2, 4, 5, 8, 10, 20, 40

*Therefore, the **common factors** of **20** and **40** are **1, 2, 4, 5, 10, and 20.***

What's More

Activity 1.1 Identify mentally whether or not each larger number is divisible by the smaller number. Write "Yes" if the number is divisible, and "No" if it is not. Write your answer on a separate sheet of paper.

1) Is 130 divisible by 2?
2) Is 326 divisible by 5?
3) Is 124 divisible by 2?
4) Is 405 divisible by 5?
5) Is 567 divisible by 2?
6) Is 405 divisible by 10?
7) Is 415 divisible by 5?
8) Is 660 divisible by 10?
9) Is 212 divisible by 5?
10) Is 470 divisible by 10?

Activity 1.2 Use the divisibility rules for 2, 5 and 10 to list down all the factors of each pair of numbers. Then, encircle the common factors. Use a separate sheet to do this.

1) 15 and 45
2) 26 and 18
3) 50 and 80
4) 32 and 12
5) 54 and 60

What I Have Learned

In finding the common factors of numbers, we can use the divisibility rules for 2, 5 and 10. Consider the following:

a. Whole numbers ending in 0, 2, 4, 6, and 8 are divisible by 2. These numbers are called **even numbers**.
b. A whole number ending in 0 or 5 is divisible by 5.
c. A whole number ending in 0 is divisible by 10.

Let us check. Answer the following on a separate sheet.

1) What is the smallest number divisible by 2? _____
2) Number 55 is divisible by what number? ____
3) What is the biggest 2-digit number divisible by 10? _____
4) Are all even number ending in zero are both divisible by 2?_____

What I Can Do

Do the task below as indicated.

Directions: Using the divisibility rules for 2, 5, and 10, fill in the missing factors. Then, find the common factors.

a) 30=1, 2, 3, __, __,10,15,30
20= 1, 2, 4, __, __, 20
Common Factors: _____

b) 36= 1, 2, 3, __,6, __, __, 18, 36
12= 1, 2, 3, __, __, 12
Common Factors: _____

c) 48= 1, 2, 3, 4, __, __,12,16, __, 48
24= 1, 2, 3, 4, 6, __, __, __.
Common Factors: _____

d) 60= 1,2,3,4,5,6, __, __, __, 20,30,60
36= 1,2,3, __, __, __12,18,36
Common Factors: _____

e) 54= 1, 2, 3, __, __, __, 27, 54
42= 1, 2, 3, 6, __, __, 21, __
Common Factors: _____

Assessment

Directions: Choose the letter of the correct answer. Write your answer on a separate sheet of paper.

1) Which of the following is the set of common factors of 48 and 60?
   A. 1, 2, 3, 4, 6, 12
   B. 1, 2, 3, 4, 8, 12
   C. 1, 2, 3, 4, 6, 8
   D. 1, 2, 4, 6, 12

2) 1, 2, 5, and 10 are the common factors of ____
   A. 20 and 25 B. 20 and 30 C. 25 and 30 D. 15 and 25

3) One of the following is NOT a factor of 32?
   A. 2 B. 4 C. 6 D. 8

4) Which of the numbers below is divisible by both 5 and 10?
   A. 105 B. 540 C. 75 D. 235

5) 124 is divisible by _____.
   A. 2 B. 5 C. 6 D. 10

6) The following are factors of 225 EXCEPT _____.
   A. 5 B. 15 C. 25 D. 35

7) Which is the common factor of 32, 54, and 66?
   A. 2 B. 4 C. 6 D. 8

8) One of the following is divisible by both 2 and 10. Which one is it?
   A. 552 B. 625 C. 760 D. 848

9) Which is NOT a common factor of 18, 24, and 36?
   A. 2 B. 3 C. 4 D. 6

10) Which of the following is NOT divisible by 2, 5, and 10?
   A. 90 B. 145 C. 250 D. 520

Additional Activities

Need more to practice.

Solve the following problem. Write your solution and answer in your activity notebook.

How many whole numbers between 1 and 30 is divisible by 2? by 5? by 10?

What I Can Do

a. Missing numbers: 30 = 5, 6
20 = 5, 10
Common Factors: 1, 2, 5, 10

b. Missing numbers: 36 = 4, 9, 12
12 = 4, 6
Common Factors: 1, 2, 3, 4, 6, 12

c. Missing numbers: 48 = 6, 8, 24
24 = 8, 12, 24
Common Factors: 1, 2, 3, 4, 6, 8, 12, 24

d. Missing numbers: 60 = 10, 12, 15
36 = 4, 6, 9
Common Factors: 1, 2, 3, 4, 6, 12

e. Missing numbers: 54 = 6, 9, 18
42 = 7, 14, 42
Common Factors: 1, 2, 3, 6

Additional Activities

1. Divisible by:
   2 = 15
   5 = 6
   10 = 3

Assessment

1. A
2. B
3. C
4. B
5. A
6. D
7. A
8. C
9. D
10. B

What's In

1. 2
2. 5
3. 2, 5, 10
4. 2
5. 2, 5, 10

What's More

1.1

1. Yes
2. No
3. Yes
4. Yes
5. No
6. No
7. Yes
8. Yes
9. No
10. Yes

1.2

1. 3, 5, 15
2. 2
3. 2, 5, 10
4. 2, 4
5. 2, 3, 6

What I Know

1. A
2. A
3. B
4. A
5. A
6. A
7. B
8. D
9. D
10. B

What I have learned

1. What is the smallest number divisible by 2? **2**
2. Number 55 is divisible by what number? **5**
3. What is the biggest 2-digit number divisible by 10? **90**
4. A number ending in **zero (0)** is divisible by 10 only.

Answer Key

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Divisibility Rules retrieved on May 5, 2020 at https://en.wikipedia.org/wiki/Divisibility_rule

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