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DepED
DEPARTMENT OF EDUCATION

Mathematics

Quarter 1 – Module 1:

Using Divisibility Rules for 2, 5 and 10 to Find the Common Factors of Numbers

What I Need to Know

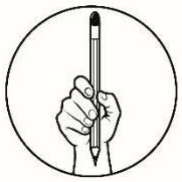
This module was designed and written with you in mind. It is here to help you master the Uses of Divisibility Rules for 2, 5 and 10 to Find Common Factors of Numbers. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary 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.

The module is divided into two lessons, namely:

Lesson 1 – Divisibility rules for 2, 5 and 10
Lesson 2 – Using divisibility rules for 2, 5 and 10 to find common factors of numbers

After going through this module, you are expected to:

1. explain divisibility rules for 2, 5 and 10;
2. use divisibility rules for 2, 5 and 10 to find common factors of numbers.



What I Know

Directions: Encircle the numbers whose factor is the given number before each item.

(2	1)	88	470	93	295
(5)	2)	5000	7528	6010	6451
(10)	3)	370	955	841	530
(10)	4)	591	347	320	140
(5)	5)	474	830	526	450
(2)	6)	236	211	208	1975
(10)	7)	595	592	587	560
(5)	8)	375	401	410	423
(2)	9)	184	201	312	565
(10)	10)	310	315	320	317

Lesson 1 Divisibility Rules for 2, and 10

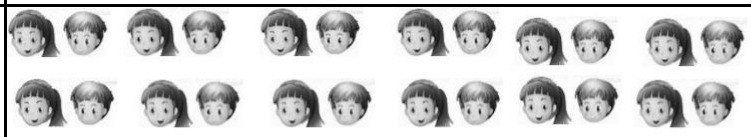
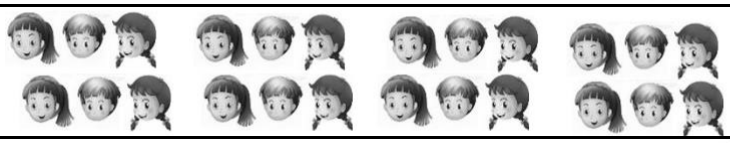
Hello everyone! I am Teacher Zeny, your teacher in Mathematics. Before we start our lesson, let's have a game first. Be alert so that you will not be eliminate. Just follow the instructions. Okay, are you ready?

What's In

Let's Play: "The Boat is Sinking"

On her birthday party, Zeny prepared a game called "The Boat is Sinking". She asked her 24 guest kids to group themselves into 2, 3, 4, 6 and 8. Each time she asked them to form groups no one is eliminated. But when she asked them to group themselves into 5, four kids were eliminated from the game. Why is that so? If she will group the remaining kids into three, how many will be eliminated?

Are ready to listen? I have here a chart. Study the content of this and try to recall your lessons in division.

Group by	24 Kids	Eliminated Kids
2		
3		
4		
5		
6		
7		

1. Based on the data presented, how many kids were eliminated when they grouped themselves into 2, 3, 4, 6 and 8? Why?
2. How many kids in a group when the four eliminated kids will group again into 2? Why?

Is divisibility rules important in our daily activities? Why?
In what particular situation in your daily life can you apply the divisibility rules?

Notes to the Teacher

The activities to this module must be answered honestly. If the learners get high score, they can proceed to the new lesson. But if the learners got low score, they may repeat answering the activities.

What's New

This time, you will watch a video. Be attentive so that you will understand what the video all about. And after watching, you will read and analyze a word problem in Activity 1 and answer the questions below. (If internet is available)

Video Presentation: Divisibility rules for 2, 5 and 10
https://www.youtube.com/watch?v=s9iy5BVzO6w&t=252s by Marvin L. Olaso

Activity 1
Present a word problem to the class.
On a certain bakery shop, there were 130 pieces of cookies to be placed on trays. The baker wants to arrange them in either 2, 5 or 10 rows. Would it be possible for him to arrange the pieces of cookies? How?

1) What is asked in the problem? _____
2) What are the given facts? _____
3) What operation to be used to solve the problem?_____
4) What is the answer to the problem? _____

What is It

How do you know if a number is divisible by 2, 5 and 10?
Let's go back to your answer to the problem. Let's analyze the problem step by step so that you will understand how did we come up to the answer applying the divisibility rules for 2, 5 and 10.

Solution 1:

130÷2=65

We apply the divisibility rule for 2.

All even numbers are divisible by 2.

130 is an even number, therefore, it is divisible by **2.** So, the arrangement of pieces of cookies by 2's in a tray is possible.

Solution 2:

130÷5=26

We apply the divisibility rule for 5.

Numbers ending in **0** and **5** are divisible by 5.

130 ends in 0, therefore, it is divisible by **5.** So, the arrangement of pieces of cookies by 5's in a tray is possible.

Solution 3:

130÷10=13

We apply the divisibility rule for 10.

Numbers ending in **0** are divisible by 10.

130 ends in 0, therefore, it is divisible by **10**. So, the arrangement of pieces of cookies by 10's in a tray is possible.

The divisibility rules for 2, 5 and 10 are grouped because they all require checking the one's digit of the whole number.

Did you understand? Okay, I will give you other examples so that you will understand the concept thoroughly.

Directions: Write **YES** or **NO** on your paper if the **first number** listed is divisible by the **second number.**

1) 45; **2** _____
2) 90; **5** _____
3) 1180; **10** _____
4) 5080; **5** _____
5) 6998; **2** _____

What's More

Activity 2

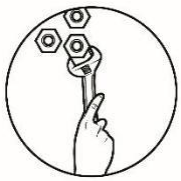
Directions: Use the divisibility rules for 2, 5 and 10. Encircle the correct answer.

1. divisible by 2.
   a. 483 136 622
   b. 332 835 620
2. divisible by 5.
   a. 400029342425
   b. 215232152640
3. divisible by 10.
   a. 560 420 273
   b. 940 365 320

What I Have Learned

How do you know if a number is divisible by 2, 5 and 10?
What are the divisibility rules for 2, 5 and 10?

Divisibility rules for 2
All even numbers are divisible by
2. Divisibility for 5
Numbers ending in 0 and 5 are divisible by
5. Divisibility for 10
Numbers ending in 0 are divisible by 10.



What I Can Do

Directions: Draw a star (★) under the correct column applying the rules for divisibility.

Number	2	5	10
6345			
8022			
4970			
2560			
5348			

Assessment

Directions: Using the divisibility rules, choose the numbers whose factor is the given number before each item.

2	1)	68	81	740	925
5	2)	745	4003	1060	8752
10	3)	430	561	840	955
10	4)	140	355	370	4535
5	5)	561	665	788	890
10	6)	820	747	610	577
2	7)	123	364	436	633
5	8)	707	815	900	909
10	9)	260	401	590	615
2	10)	563	678	779	852

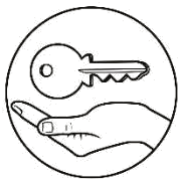
Additional Activities

Directions: A. Write your answer in a separate sheet of paper whether the given number is divisible by 2, 5 and 10.

1. 16 _____
2. 125 _____
3. 30 _____
4. 344 _____
5. 650 _____

B. Write **YES** on your paper if the number is divisible and **NO** if the number is not divisible.

1. Can 486 be divided by 2?
2. Can 728 be divided by 5?
3. Can 310 be divided by 2?
4. Can 460 be divided by 10?
5. Can 200 be divided by 5?



Answer Key

What Is It?

Yes 5)
Yes 4)
Yes 3)
Yes 2)
No 1)

What's New?

either 2, 5 or 10 rows.
possible to arrange in
pieces of cookies are
2, 5 and .10 So, 130
4) We will divide 130 by
3) Division
rows
in either 2, 5 or 10
cookies; arrange them
2) 130 pieces of
10 .rows
cookies in either 2, 5 or
arrange the pieces of
1) The possibility to

What I Know?

10) 310, 320
9) 184, 312
8) 375, 410
560 7)
6) 236, 208
5) 830, 450
4) 320, 140
3) 370, 530
2) 5000, 6010
1) 88, 470

Assessment

10) 678, 852
9) 260, 590
8) 815, 900
7) 364, 436
6) 820, 610
5) 665, 890
4) 140, 370
3) 430, 840
2) 745, 1060
1) 68, 740

What I Can Do?

5348 – 2

2560 - 2, 5, 10

4970 - 2, 5, 10

8022 - 2

6345 - 5

What's More?

.b 940, 320

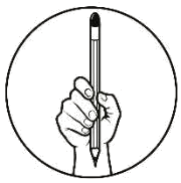
3) .a 560, 420

.b 3215, 2640

2) .a 4000, 2425

.b 332, 620

1) .a 136, 622



What I Know

Directions: Write **YES** in the blank if the larger number is divisible by the smaller number and **NO** if it is not.

_____1) Can **450** be divided by **10**?

_____2) Can **265** be divided by **5**?

_____3) Can **678** be divided by **2**?

_____4) Can **313** be divided by **5**?

_____5) Can **100** be divided by **10**?

_____6) Can **901** be divided **5**?

_____7) Can **163** be divided by **10**?

_____8) Can **812** be divided by **2**?

_____9) Can **581** be divided by **5**?

_____10) Can **700** be divided by **10**?

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

In this lesson, the learners will be able to use divisibility rules for 2, 5 and 10 to find common factors of numbers.

What's In

Drill: Choose the numbers that is divisible by 2, 5 and 10.

13	18	20	34	56
17	35	50	75	40
37	54	61	80	90
43	45	50	63	95

Review:
Give the first three multiples of the following numbers. 4

1.) 3 ____, ____, _____
2.) 5 ____, ____, _____
3.) 6 ____, ____, _____
4.) 8 ____, ____, _____

Motivation:
Show a picture of a "Bibingka" cake.

Looking at this Bibingka, what will you do so that your five friends who visited you unexpectedly can eat this equally?

Can you apply divisibility rules to this situation? How?

Is divisibility rules important in our daily activities? Why?

Notes to the Teacher

The activities to this module must be answered honestly. If the learners get high score, they can proceed to the new lesson. But if the learners got low score, they may repeat answering the activities.

What's New

Hello! Good morning to everyone. Once again, I am here to share with you another lesson to discuss about divisibility rules for 2, 5 and 10 to find common factors of numbers. Okay, are you ready now?

Video Presentation: Divisibility rules for 2, 5 and 10 (If internet is available)
https://www.youtube.com/watch?v=s9iy5BVzO6w&t=252s by Marvin L. Olaso

Activity 1
Let us read and analyze the word problem carefully.
Mang Jose needs to have blocks of wood that are 5 meters long each. He found logs of wood in their backyard that have the following lengths in meter: 25, 50, and 61.

Which of the three logs is his best option to get an equally-sized block of woods without any excess?
How did you get the answer?

What is It

This time, I will discuss to you the process on how to solve for the answer to the problem using divisibility rules for 2, 5 and 10 to find the common factors of numbers. Be attentive and have presence of mind in order to understand the process of solving the answer.

Analyze the numbers 25 and 50 which is your answer to the word problem.
What number/s divides each of the two numbers?
To find the answer, we will use the divisibility rules for 2, 5 and 10 to find the common factors of 25 and 50

25 is divisible by 5
50 is divisible by 2,5 and 10
The common factor/s of 25 and 50 is **5**
So, 25 ÷ 5 = 5
50÷5=25

Therefore, Mang Jose should choose the two logs which measure 25m and 50m since this will give him an equally-sized blocks of woods without any excess.

Did you understand? Okay, I will give you another examples and I will explain further to you that the common factor/s of two or more numbers are numbers that can divide each of the numbers exactly.

Find the common factors of the following:

Example 1: 46 and 38

Step 1: Find the divisibility of 46
46 is divisible by 2.

Step 2: Find the divisibility of 38
38 is divisible by 2

Therefore, the common factor of 46 and 38 is **2.**

Example 2: 65 and 50

Step 1: Find the divisibility of 65
65 is divisible by 5.

Step 2: Find the divisibility of 50
50 is divisible by 5 and 10.

Therefore, the common factor 65 and 50 is **5.**

Example 3: 80 and 30

Step 1: Find the divisibility of 80
80 is divisible by **2**, 4, **5**, 8, **10**, 20, 40.

Step 2: Find the divisibility of 30
30 is divisible by **2**, 3, **5**, 6, **10**, 15.

Therefore, the common factors of 80 and 30 are **2**, **5 and 10.**

What's More

Activity 2

Directions: : Write the common factor/s of the given numbers .

1) 136 62 _____

2) 835 620 _____

3) 400 224 _____

4) 2150 3210 2640 _____

5) 940 365 320 _____

What I Have Learned

Generalization:
How do you find the common factors of two or more numbers using divisibility rules?

When to use divisibility rules for 2, 5 and 10 to find the common factors of numbers?

What I Can Do

Application:
Directions: Find the common factor/s of each pair of numbers using divisibility rules.

1) 120 and 150 ➡
2) 200 and 205 ➡
3) 244 and 258 ➡
4) 355 and 310 ➡
5) 460 and 480 ➡

Assessment

Directions: Find which among 2, 5 and 10 is a common factor of the following pairs of numbers.

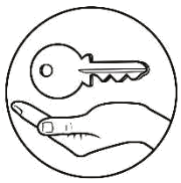
1. 484 and 136
2. 140 and 345
3. 560 and 230
4. 948 and 750
5. 1240 and 1456
6. 235 and 860
7. 536 and 312
8. 660 and 315
9. 98 and 40
10. 40 and 30

Additional Activities

Directions: Read and analyze the problem. Using the divisibility rules for 2, 5 and 10, solve for the answer:

Mrs. Romero has 2 coils of wire that are 32m and 60m long. What are the possible lengths of each cut of wire?

1) What is asked in the problem? _____
2) What are the given facts? _____
3) What will you do to find the answer? _____
4) What is the answer to the problem? _____



Answer Key

What I Know

10) YES
9) NO
8) YES
7) NO
6) NO
5) YES
4) NO
3) YES
2) YES
1) YES

What's In

5) 8, 16, 24
4) 6, 12, 18
3) 5, 10, 15
2) 3, 6, 9
1) 4, 8, 12

Review:

45, 70, 95
54, 80, 90
35, 50, 75, 40

Drill: 18, 20, 34, 56

What's New

without .excess
sized blocks of woods
give him an equally-
and 50m since this will
which measure 25m
choose the two logs
Mang Jose should

Activity 1:

What's More

5 5)
2, 5, 10 4)
2 3)
5 2)
2 1)

What I Can Do

2, 5, 10 5)
5 4)
2 3)
5 2)
2, 5, 10 1)

Assessment

10) 2, 5, 10
9) 2
8) 5
7) 2
6) 5
5) 2
4) 2
3) 2, 5, 10
2) 5
1) 2