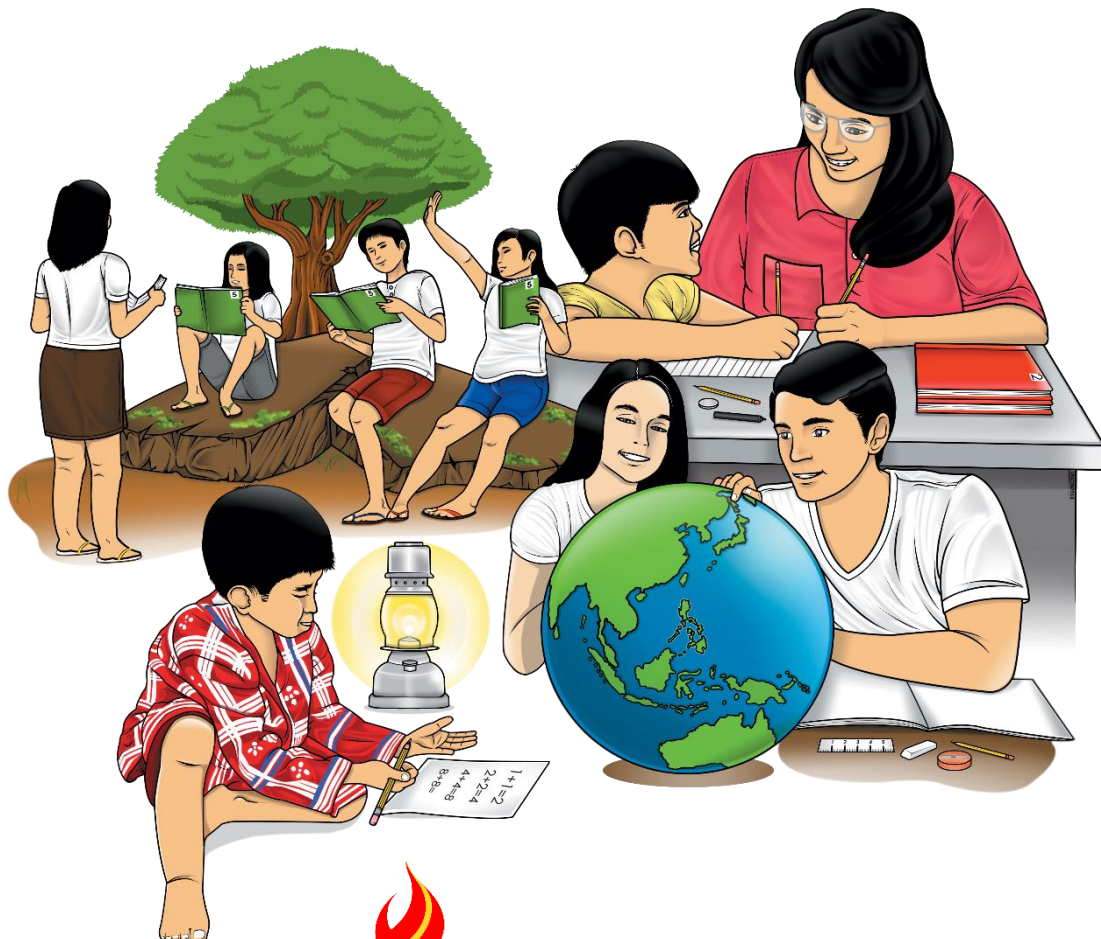


# Mathematics

## Quarter 2 – Module 3: Rounding Decimal Numbers



**Mathematics – Grade 5**  
**Alternative Delivery Mode**  
**Quarter 2 – Module 3: Rounding Up and Down Decimal Numbers**  
**First Edition, 2020**

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# **Mathematics**

## **Quarter 2 – Module 3: Rounding Decimal Numbers to the Nearest Hundredths and Thousandths**

## **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.

Good luck and happy learning!



## ***What I Need to Know***

Hello, Mathletes!

This module was designed to help you gain understanding in rounding off decimal numbers to the nearest hundredths and thousandths. Learning to round off decimals is very important as it is used to find approximate values of decimals which can be used in your day-to-day living.

After going through this module, you are expected to:

1. state the steps in rounding off decimal numbers to the nearest hundredths and thousandths; and
2. appreciate the importance of rounding off decimal numbers in real-life situations.



## ***What I Know***

**Directions:** Choose the letter of the correct answer. Use separate sheet of paper.

- 1) What is **12.362** rounded to the nearest hundredths?  
A. 12.363  
B. 12.362  
C. 12.36  
D. 12.37
- 2) When **5.0725** is rounded to the nearest thousandths, it becomes \_\_\_\_\_.  
A. 5.003  
B. 5.072  
C. 5.073  
D. 5.0005
- 3) If **0.6357** is rounded to the nearest hundredths, it will be written as \_\_\_\_\_.  
A. 0.63  
B. 0.64  
C. 0.635  
D. 0.636

- 4) When **Php23.6724** is rounded to the nearest hundredths, it is \_\_\_\_.
- A. Php 23.67
  - B. Php 23.68
  - C. Php 23.672
  - D. Php 23.673
- 5) Mary bought a rope with a length of **15.687** meters. What is **15.687** when rounded to the nearest tenths?
- A. 15.6
  - B. 15.7
  - C. 15.67
  - D. 15.68
- 6) Marsha spent **Php220.50** last year on daycare. If rounded to the nearest tenths, how much did she spend for her daycare?
- A. Php 220.5
  - B. Php 220.6
  - C. Php 220.51
  - D. Php 220.52
- 7) The height of Preia is **150.89** cm. What is Preia's height when rounded to the nearest hundredths?
- A. 150.17
  - B. 150.06
  - C. 150.89
  - D. 150.08
- 8) Albert got an average grade in Mathematics of about 97.4567. If rounded off to the nearest hundredths, what will be the average grade of Albert?
- A. 97.44
  - B. 97.45
  - C. 97.46
  - D. 97.456
- 9) What is 23.0944 when rounded to the nearest thousandths?
- A. 23.09
  - B. 23.20
  - C. 23.094
  - D. 23.095
- 10) If 5.859 is rounded to the nearest hundredths, it becomes \_\_\_\_.
- A. 5.85
  - B. 5.86
  - C. 5.852
  - D. 5.853

**Lesson****1****Rounding Decimal Numbers to the Nearest Hundredths and Thousandths**

In this lesson, you will learn how to round numbers to the nearest hundredths and thousandths with decimals to a given place. You need a thorough understanding of place value to round decimals correctly. Using concrete models and samples that represent tenths, hundredths, and thousandths will help you build this understanding. This lesson will reinforce your knowledge of place value and help you focus on rounding to the desired places. **(M5NS-IIa-103.2)**

***What's In***

In the previous grade, you have learned on how to round decimals to the nearest whole numbers and tenths place. Note that in rounding off decimal numbers, first, you must find the rounding digit or the digit occupying the place value you're rounding to.

Let us refresh your memory. Try the following exercises below by rounding off decimal numbers to the nearest whole number and tenth places. Are you ready?

Let's Begin!

**Directions:** Round the following decimal numbers to the place indicated. Write your answers on the spaces provided.

A. Round each decimal number to the nearest whole number.

- 1) 4.4 = \_\_\_\_\_
- 2) 6.7 = \_\_\_\_\_
- 3) 28.34 = \_\_\_\_\_
- 4) 47.540 = \_\_\_\_\_
- 5) 87.46 = \_\_\_\_\_

B. Round each decimal number to the nearest tenths.

- 6) 100.19 = \_\_\_\_\_
- 7) 400.76 = \_\_\_\_\_
- 8) 650.478 = \_\_\_\_\_
- 9) 708.590 = \_\_\_\_\_
- 10) 865.655 = \_\_\_\_\_



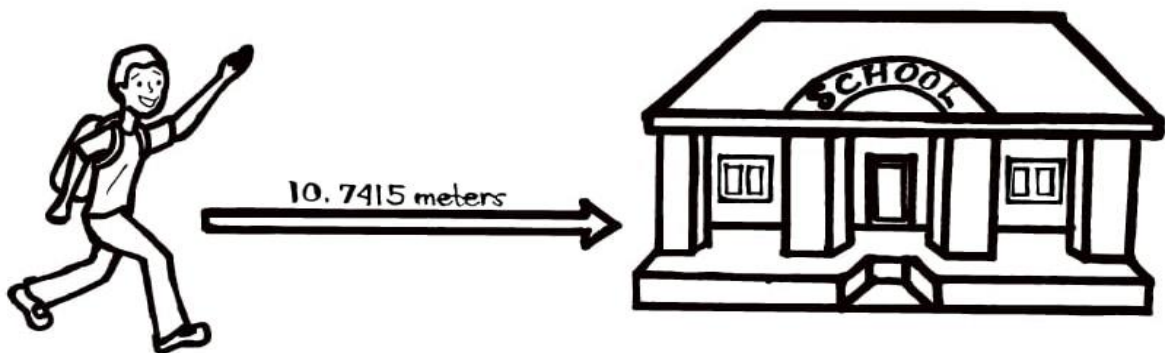
## ***What's New***

### **Situation:**

Javier is a Grade 5 student of Tinambacan District. Every day, he walks a distance of 10.3456 meters in going to school from his house.

To the nearest hundredths, how far does Javier walk every day from his house to the school?

To the nearest thousandths, how far is this?



The problem situation above calls for rounding off decimal numbers to the nearest hundredths and thousandths. For further understanding about this lesson, a step-by-step process is introduced in the next portion of this module.





## What Is It

In this lesson, you will learn about rounding off decimal numbers to the nearest hundredths and thousandths. How do you do that? Read the process below and try to follow the example illustrated on the first part of this lesson.

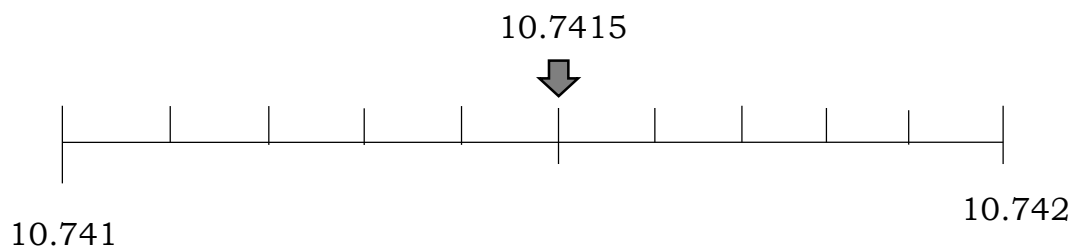
Let's go back to the situation above, to answer the problem, we used the number line below to guide you for better understanding on how to round off decimal numbers.

**A.**



*Since 10.7415 is closer to 10.74 than 10.75, the decimal 10.7415 rounded to the nearest hundredths is 10.74. In this case, we would say that the decimal is rounded off to 10.74.*

### **B. Rounding off 10.7415 to the nearest thousandths**



Notice that the given decimal 10.7415 is exactly halfway between 10.741 and 10.742. We round it off to 10.742. In this case, we would say that the decimal is rounded off to 10.742.

Remember, when rounding off a decimal to certain place value, you have to look at the digit to the right before rounding off a number in a certain place value.

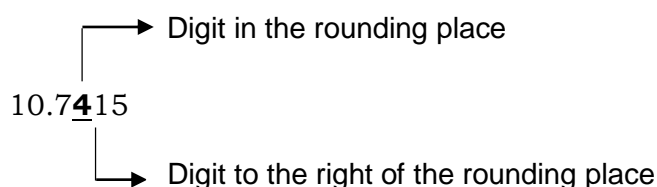
If the digit to the right of the rounding number is greater than or equal to 5 (5, 6, 7, 8, 9), you have to **round up** or add 1 to the rounded digit and drop all the digits to its right.

**The following steps and examples are to be considered in rounding off decimal numbers.**

To round off decimal numbers:

- 1) Find the rounding digit occupying the place value you're rounding to. Then look at the digit to the right of the rounding digit.
- 2) If the number right after the rounding digit is less than 5 (4, 3, 2, 1, 0), you have to **round down**. This is done by leaving the last decimal place as it is given and discarding all the digits to its right.

➤ In 10.7415,  
Nearest hundredths:

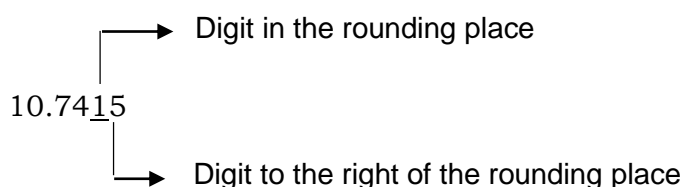


Think:  $1 < 5$ . Therefore, you have to **round down**. Then, drop all digits after the rounding place.

**Answer: 10.74**

- 3) If the number right after the rounding digit is greater than or equal to 5 (5, 6, 7, 8, 9), you have to **round up** or add 1 to the rounded digit and drop all the digits to its right.

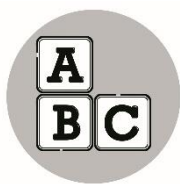
Nearest thousandths:



Think:  $5 = 5$ .

Therefore, you have to round up. Then, add 1 to the rounded digit and drop all the digits to its right.

**Answer: 10.742**



## What's More

### Activity 1:

**Directions:** Round each decimal to the indicated place value. Write **RU** if you have to round up and write **RD** if you need to round down.

A. Round each decimal to the nearest hundredths.

1) 51.732 = \_\_\_\_\_

2) 37.596 = \_\_\_\_\_

3) 30.361 = \_\_\_\_\_

B. Round each decimal to the nearest thousandths.

4) 12.6458 = \_\_\_\_\_

5) 46.2143 = \_\_\_\_\_

### Activity 2:

**Directions:** Round off the following decimals as indicated.

Number	Nearest Hundredths	Nearest Thousandths
<b>Ex. 3.4156</b>	<b>3.42</b>	<b>3.416</b>
1.) 1.4552		
2.) 25.3256		
3.) 75.2341		
4.) 34.4535		
5.) 125.4569		



## What I Have Learned

**Directions:** Fill in the blanks with the correct words to complete the process to round off decimal numbers.

1. Find the \_\_\_\_\_ occupying the place value you're rounding to. Then look at the digit to the \_\_\_\_\_ of the rounding digit.
2. If the number right after the rounding digit is less than 5 (4, 3, 2, 1, 0), you have to \_\_\_\_\_. This is done by leaving the last decimal place as it is given and discarding all the digits to its right.
3. If the number right after the rounding digit is greater than or equal to 5 (5, 6, 7, 8, 9), you have to \_\_\_\_\_ or add 1 to the rounded digit and drop all the digits to its right.



## ***What I Can Do***

**Directions:** Carefully read each statement. Fill in the blanks with the correct answer.

- 1) Carla was born weighing 4.586 pounds. Her mother asked her to round off her weight to the nearest hundredths. The result is \_\_\_\_\_.
- 2) A triathlete finished an average of 35.6789 kilometers during his last leg. If his record is rounded to the nearest thousandths, the result is \_\_\_\_\_.
- 3) If rounded to the nearest hundredths, 67.991 becomes \_\_\_\_\_.
- 4) When rounded to the nearest hundredths, 45.678 will be read as \_\_\_\_\_.
- 5) Jaime's father harvested a lot of root crops last weekend. When it was weighed, it totaled to 678.5988 kilograms. If rounded to the nearest thousandths, it will be read as \_\_\_\_\_.



## ***Assessment***

**Directions:** Read the statements below and write the letters of the correct answers.

- 1) What is 34.525 rounded to the nearest hundredths?
  - A. 34.5
  - B. 34.6
  - C. 34.52
  - D. 34.53
- 2) When 6.0074 is rounded to the nearest thousandths, it becomes \_\_\_\_\_.
  - A. 6.01
  - B. 6.07
  - C. 6.007
  - D. 6.008
- 3) If 0.013 is rounded to the nearest hundredths, it becomes \_\_\_\_\_.
  - A. 0.1
  - B. 0.01
  - C. 0.02
  - D. 0.003






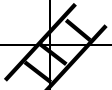
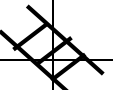


- 4) When Php 20.247 is rounded to the nearest hundredths, it becomes\_\_\_\_.
- A. Php 20.24
  - B. Php 20.25
  - C. Php 20.247
  - D. Php 20.248
- 5) Imelda bought an electrical wire with a length of 35.52 meters. What is 35.52 when rounded to the nearest tenths?
- A. 35.5
  - B. 35.6
  - C. 35.52
  - D. 35.53
- 6) Jude spent Php 5,300.75 last year on his tuition fee. If rounded to the nearest hundredths, how much did he spend?
- A. Php 5 300.7
  - B. Php 5 300.8
  - C. Php 5 300.70
  - D. Php 5 300.75
- 7) The height of Marion is 195.1346 cm. What is Marion's height when rounded to the nearest thousandths?
- A. 195.13
  - B. 195.14
  - C. 195.134
  - D. 195.135
- 8) John got an average grade of about 89.756 in his Science subject. When rounded off to the nearest hundredths, what will be John's average grade?
- A. 89.7
  - B. 89.75
  - C. 89.76
  - D. 89.006
- 9) What is 9.0073 when rounded to the nearest thousandths?
- A. 9.01
  - B. 9.007
  - C. 9.008
  - D. 9.0003
- 10) If 70.035 is rounded to the nearest hundredths, it becomes \_\_\_\_.
- A. 70.1
  - B. 70.04
  - C. 70.045
  - D. 5.70.005



## Additional Activities

### Rounding Decimals: Snakes & Ladders

**Directions:** Each player will take turns rolling a dice and move to the number of spaces. If you land on a ladder you can move up, but if you land in a snake you must move back down. Write your answers in the blanks below. The first player who can reach the finish line with the correct answers is declared as the winner. (This game can also be played alone.)

83.46 <u>5</u> 78 	38.9 <u>4</u> 5 	465.7 <u>5</u> 63 	<b>FINISH</b>
Lose a Turn 	35.0 <u>4</u> 65	Go Back 2 spaces	895.54 <u>1</u> 0 
895.54 <u>1</u> 0	30.4 <u>6</u> 3	465.75 <u>6</u> 3 	19.39 <u>2</u>
102.6 <u>3</u> 2 	895.54 <u>1</u> 0 	Go Back to Start	35.04 <u>6</u> 5 
<b>START</b>	28.10 <u>2</u> 5	83.4 <u>6</u> 578	123.8 <u>4</u> 6

Round off each underlined number to its corresponding place value.

- |                      |         |                        |         |
|----------------------|---------|------------------------|---------|
| 1) 28.10 <u>2</u> 5  | = _____ | 11) 895. 54 <u>1</u> 0 | = _____ |
| 2) 83.4 <u>6</u> 578 | = _____ | 12) 35.0 <u>4</u> 65   | = _____ |
| 3) 123.84 <u>6</u>   | = _____ | 13) 83.46 <u>5</u> 78  | = _____ |
| 4) 35.04 <u>6</u> 5  | = _____ | 14) 38.9 <u>4</u> 5    | = _____ |
| 5) 895.54 <u>1</u> 0 | = _____ | 15) 465.7 <u>5</u> 63  | = _____ |
| 6) 102.6 <u>3</u> 2  | = _____ |                        |         |
| 7) 895.54 <u>1</u> 0 | = _____ |                        |         |
| 8) 30.4 <u>6</u> 3   | = _____ |                        |         |
| 9) 465.75 <u>6</u> 3 | = _____ |                        |         |
| 10) 19.39 <u>2</u>   | = _____ |                        |         |



## Answer Key

<b>What's In</b>	
1) 4	
2) 7	
3) 28	
4) 48	
5) 87	
6) 100.2	
7) 400.8	
8) 650.5	
9) 708.6	
10) 865.7	

<b>Assessment</b>	
1. D	2. C
3. B	4. B
5. A	6. D
7. D	8. C
9. B	10. B

<b>Additional Activities</b>	
1. 28.103	2. 83.47
3. 123.85	4. 35.047
5. 895.54	6. 102.63
7. 895.54	8. 30.46
9. 465.756	10. 19.39
11. 895.541	12. 35.05
13. 83.466	14. 38.95
15. 465.76	

<b>What's More</b>	
Activity 1:	
1. RD	
2. RU	
3. RD	
4. RU	
5. RD	
Activity 2:	
Number	Nearest
1.) 1.4552	1.46
2.) 25.3256	25.33
3.) 75.2341	75.23
4.) 34.4535	34.45
5.) 125.4569	125.46
	Thousands
	Nearest

<b>What I Know</b>	
1. C	
2. C	
3. B	
4. A	
5. B	
6. A	
7. C	
8. C	
9. C	
10. B	

<b>What I Can Do</b>	
1. 4.59	
2. 35.679	
3. 67.99	
4. 45.68	
5. 678.599	
<b>What I Have Learned</b>	
1. rounding digit; right	
2. round down	
3. round up	

## ***Reference***

Lumbre, A. P. and Ursua, A. C. (2016). *21<sup>st</sup> Century Mathletes 5 textbook*. Quezon City: Vibal Group, Inc.



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