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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 3
Lesson
8

Lesson Exemplar for Mathematics Grade 7
Quarter 3: Lesson 8 (Week 8)
SY 2024-2025

Development Team

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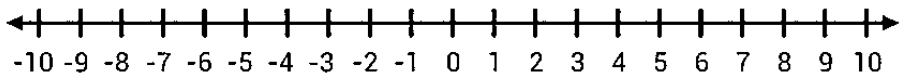
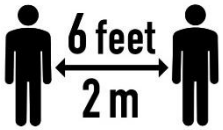
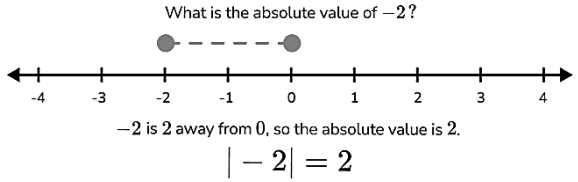
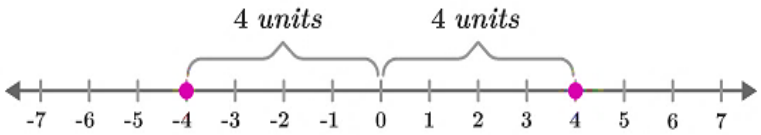
MATHEMATICS / QUARTER 3 / GRADE 7

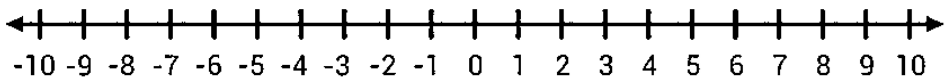
I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learners should have knowledge and understanding of the absolute value of an integer.
B. Performance Standards	By the end of this lesson, the learners are able to Identify the absolute value of an integer. (NA)
C. Learning Competencies and Objectives	***Learning Competency*** By the end of this lesson, the learners are able to identify the absolute value of an integer, and its meaning on the number line. **Objective/s:** 1. Plot integers on a number line. 2. Determine the absolute value of integers. 3. Order integers from least to greatest and vice versa. 4. Solve real-life problems involving absolute value.
D. Content	Absolute Value of an Integer
E. Integration	

II. LEARNING RESOURCES
Pierce, R. Math is Fun. (2022). *Absolute Value.* https://www.mathsisfun.com/data/frequency-distribution.html Learning. (2023). *Absolute Values.* https://k5learning.com/free-math-worksheets/fifth-grade-5/integers/absolute-value Stapel, Elizabeth. *"Absolute Value"*. Purplemath. https://www.purplemath.com/modules/absolute.htm

III. TEACHING AND LEARNING PROCEDURE		**NOTES TO TEACHERS**
A. Activating Prior Knowledge	**DAY 1** **1. Short Review:** Let the learner answer the following short review activity. Plot the following points using a number line.	The teacher, in this part, will introduce the lesson by asking the students to plot the given integers in the number line.

	1. A = –10 3. C = 7 5. E = –6 2. B = 9 4. D = –5  **2. Feedback (Optional)**	After giving the short activity to the learners, the teacher should give feedback to connect the main lesson.
B. Establishing Lesson Purpose	**1. Lesson Purpose** Share at least one example of a real-life application showing the importance of the lesson. You may also ask the students about their experiences where they encountered the application of the concept. The teacher may use the example below. Example: Social distancing as part of health protocols during the COVID-19 pandemic. This health safety measure was imposed to ensure the public health safety.  **2. Unlocking Content Area Vocabulary** The **absolute value** of an integer refers to its actual distance from zero in a number line. It is denoted by the symbol $\|x\|$, where x is any positive or negative integer, or zero. Example:  $\|-2\| = 2$	In this part, the teacher will introduce the lesson and discuss its importance to the daily lives of the learners.
C. Developing and Deepening Understanding	**SUB-TOPIC 1: Absolute Value of an Integer** **1. Explicitation** Distance is measured with positive numbers, regardless of where the measurement begins and finishes. We use the concept of a number's absolute value to calculate distance. Let's understand this topic better with the help of examples. **2. Worked Example** a. What is the value of $\|-4\|$? *Solution:* The integer –4 is 4 units away from zero.	In this sub-topic, the teacher can use the work example as an individual or group activity and as formative assessment to let learners have participation in an interactive discussion. Along with the discussion, the teacher may also use the activities/worksheets on the

	Below is an illustration of the distance of an integer –4 from 0 using the number line.  b. Which has a greater value, |−7| or |6|? *Solution:* Without using the number line, we can identify that –7 is seven units away from zero and 6 is six units away from zero. That is, |−7| = 7 |6| = 6 So, |−7|has a greater value than |6|. c. Two cars, A and B, left the car park at the same time and traveled at different speeds in opposite directions. After one hour, Car A was 20 kilometers to the west of the car park, and Car B was 24 kilometers to the east of the car park. Represent the given information in absolute values and find the distance between car A and car B. *Solution:* Let |−20| kilometers be the distance of car A from the car park and let|24| kilometers be the distance of car B from the car park. To find the distance between car A and car B, take the absolute value of each car's distance and then add the shorter distance from the longer distance. That is, |24|+ |− 20| = 24 + 20 = 44. Hence, the distance between car A and car B is 44 kilometers. **DAY 2** **3. Lesson Activity** A. Plot the following points using a number line. 1. F is five units to the left of zero. 2. G is seven units eastward of zero. 3. H is 10 units to the right of G. 4. I is 6 units to the left of H. 5. J is in the middle of –10 and 7.	second day of the lesson as a formative assessment. This lesson proper can also be repeated in sub-topic 2. The teacher may also add more activities for further elaboration of the lesson, as the needs arises. The teacher can facilitate the presentation and discussion of the answer in this lesson activity. The teacher can correct and rectify some errors and misconceptions related to the absolute value of a number.



B. Compare the values of each item by writing the symbols <, >, and = in the space provided.

1. |−13| _____ |11|
2. |−28| _____ |−29|
3. |−98| _____ |−50|
4. |−20| _____ |20|
5. |−100| _____ |110|

C. Gina lives between Caloy and Danah. She lives closer to Caloy by 2 blocks. If Danah is 5 blocks away from Gina, how far is Caloy from Danah? Write your complete solution in the box.

Solution:

D. Mrs. Reyes went 6 blocks to the church, north of her house. She then went to the market 3 blocks from the church in the same direction. Her friend, Mrs. Agustine, was at the park, 3 blocks to the south of her house. How far is Mrs. Reyes from Mrs. Agustine? Write your complete solution in the box.

Solution:

DAY 3

Let the students work in tandem or small groups to answer the exercises in the worksheet (Learning Activity Sheet 2). Discussion of answers can be done to ensure mastery of the lesson.

Answer Key to Activity No. 2:

A.

1. b	6. b	11. c
2. a	7. d	12. d
3. b	8. b	13. d
4. d	9. c	14. c
5. b	10. c	15. A

B.

1. True	6. False	11. True
2. False	7. True	12. True
3. False	8. False	13. False
4. False	9. False	14. True
5. True	10. False	15. True

C. Number Line

D.

1. =	6. =	11. =
2. >	7. >	12. <
3. <	8. >	13. >
4. >	9. <	14. <
5. <	10. <	15. <

D. Making Generalizations	**1. Learners' Takeaways** **Sample Questions** A. Let the learners answer the following questions. 1. How will you determine the absolute value of integers? 2. How is the knowledge of absolute value important in solving operations on integers? B. Let the learner solve the problem. Lina conducted a survey about the preferred Student Government presidents of Grade 7 Students from a school. Among the 170 respondents, 10% preferred Kate, 15% for Nina, 15% for Annie, 10% for Ticia, 30% for Ben, and the rest for Clyde. Lina wanted to organize the data in a frequency distribution table. Help Lina create a frequency distribution table. **2. Reflection on Learning** Ask the learner to write an essay based on their understanding of the concept of absolute values of integers and how they can apply it in their daily lives.	In the last two days of the lesson, check the learners' takeaways. The teacher may give questions to learners or give another activity. The teacher may use essay writing to share their experience about the absolute value of an integer and its real-life applications. It could be done in pairs or individually.

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION	**NOTES TO TEACHERS**
A. Evaluating Learning	**DAY 4** **1. Formative Assessment** A. Evaluate the following expressions, then arrange the result from least to greatest: $|-14|$, $(|-200| - 89)$, $|4 + 15|$, $|-18|$ B. Compare the values of each item by writing the symbols <, >, and = in the space provided. 1. $|-63|$ _____ $|62|$ 2. $|-6| + |4|$ _____ $|-9| + |-2|$ 3. $|-23| + 7$ _____ $|-38| + |-4|$ 4. $|-10| + |11|$ _____ $|-19| + |-8|$ 5. $|25| + |-3|$ _____ $|29| + |-1|$ C. Which of the following has the greatest value? 1. A = $|-18| + |-9|$ 2. B = $|-8| + |-27| - |5|$ 3. C = $|3| + |-12| + |-9|$	

<table>
<tr><td></td><td colspan="3">D. A submarine is 35 meters below sea level. At the same instant, an airplane is flying 200 meters above. How far is the submarine from the airplane? Write your complete solution in the box.

Solution:

2. Homework (Optional)</td><td></td></tr>
<tr><td rowspan="5">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5">The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement, and other related stuff.

Teachers may also suggest ways to improve the different activities explored/lesson exemplar.</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>C. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

▪ <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?

▪ <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td><td>Teacher's reflection in every lesson conducted/facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.</td></tr>
</table>