

Absolute Value

Reporting Category	Number and Number Sense
Topic	Identifying and describing absolute value for rational numbers
Primary SOL	7.1e The student will identify and describe absolute value for rational numbers.
Related SOL	7.3

Materials

- Number line

Vocabulary

integer, unit (earlier grades)

absolute value (7.1)

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Display a line similar to a number line with the months (January through December) as the labels. Place a large green dot on July marking it as the center. Ask students with birthdays in August to stand. Establish that their birthdays are one month from July. Ask students if anyone else in the room has a birthday one month away from July. A discussion should lead to the month of June as one month away even though it comes before July. Mark June and August with a different colored dot or a different symbol. Continue for all the remaining months.
2. Replace the months with numbers, with July becoming zero. Facilitate a discussion concluding that 1 and -1 are both one unit from zero. Continue with the remaining values on the number line.
3. Introduce the term *absolute value*. The absolute value of a number is the distance from 0 on the number line. Introduce the symbol for absolute value. Continue the lesson by giving students some rational numbers and asking students to identify their absolute values.

Assessment

- **Questions**
 - What is the absolute value of a number?
 - Can absolute value be a negative number? Why, or why not?
 - Is the opposite of a number the same as the absolute value of a number? Why or why not?
- **Journal/Writing Prompts**
 - Give a situation in which you would need to use the absolute value of a number.
 - Explain the difference between the absolute value symbol and parentheses.

Strategies for Differentiation

- Give students a number line with positive and negative integers. Students can place the end of a piece string on 0 and cut the other to the length of a given number, such as 7.

Keeping one end of the string at zero, rotate the piece of string to the other side of zero. The number the same length as the string has the same absolute value as the original number.

- Use a compass. Place one end of the compass on zero and place the pencil on a number line. Draw a circle. The distance of the circle from zero determines the absolute value.