

Further investigations:

Give your child an imaginary amount of money to spend at his favorite store. Let him look through a catalog or a newspaper ad to find items he can purchase with that amount of money. Cut out the items and have your child arrange them in order from greatest to smallest amount of money. Ask your child to make change from the given amount. Before a car trip, ask your child to read the odometer, including the tenths place. Write the number down and, when you reach your destination, ask your child to read the new number, and to subtract to find the distance traveled.

Terminology:

Numbers: Measures of quantity or size

Numerals: Symbols used to represent numbers

Digits: Any symbol or numeral used to show a number

Expanded form: A way to write a number that shows the place value of each digit. Example: 34,788 is written as $30,000 + 4,000 + 700 + 80 + 8$

Standard form: A way to write numbers that shows only the digits

Periods: Each group of three digits in a place value chart. Example: the hundreds period or the thousands period

Round: To change a number to a close, more convenient value. The most common rules for rounding numbers are:

- Find the place value you want (the "rounding digit") and look to the digit just to the right of it.
- If that digit is less than 5, do not change the "rounding digit" but change all digits to the right of the "rounding digit" to zero.
- If that digit is greater than or equal to 5, add one to the "rounding digit" and change all digits to the right of the "rounding digit" to zero.

Estimation: An approximate or rough calculation, often based on rounding

Place value: The value given to a digit by its place in a number

> is greater than
< is less than
= is equal to

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Whole Numbers, Place Value, and Rounding

Students will:

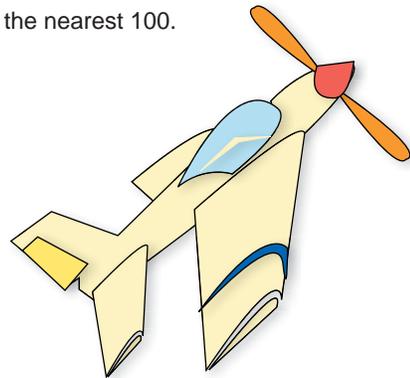
- Read numbers correctly through the millions
- Write numbers correctly through the millions in standard form
- Write numbers correctly through the millions in expanded form
- Identify the place value names for hundredths through millions
- Identify the place value locations for hundredths through millions
- Round numbers to the nearest ten, hundred, or thousand
- Describe real life applications of applying rounding to the nearest ten, hundred, and thousand

Classroom Cases:

1. Using this number: 389,884,030
 - a. read it aloud
 - b. write it in expanded form
 - c. identify the value and the place for the numeral 9

Case Closed - Evidence:

- a. three hundred eighty-nine million, eight hundred eighty-four thousand, thirty
 - b. $300,000,000 + 80,000,000 + 9,000,000 + 800,000 + 80,000 + 4,000 + 30$
 - c. The 9 is in the millions place and its value is 9,000,000.
2. Round the following numbers to the nearest 100.
 - a. 490,288
 - b. 2,009
 - c. 390,184
 - d. 89,012
 - e. 60,095



Case Closed - Evidence:

- a. 490,300
 - b. 2,000
 - c. 390,200
 - d. 89,000
 - e. 60,100
3. What numeral is in the tenths place in these numbers?
 - a. 4.92
 - b. 39.01
 - c. 489.71
 - d. 189,200.37

Case Closed - Evidence:

- a. 9
- b. 0
- c. 7
- d. 3

4. To finish his model airplane, Don needs three strips of 1-inch wide balsa wood. Each strip must be at least 2.25 inches long. If balsa wood is sold by the whole inch, what is the smallest length Don should buy?

Case Closed - Evidence:

$2.25 + 2.25 + 2.25 = 6.75$ inches, so Don should buy 7 inches of balsa wood.

Clues:

Rounding can be a challenging concept for students. Finding numbers in everyday life and discussing which 'hundred' or 'ten' they are closer to can be helpful in conceptualizing rounding. Practice reading large numbers aloud when you and your child see them in the newspapers or magazines.

Book'em:

Alexander, Who Used to Be Rich Last Sunday by Judith Viorst
How Much Is a Million? by David Schwartz