

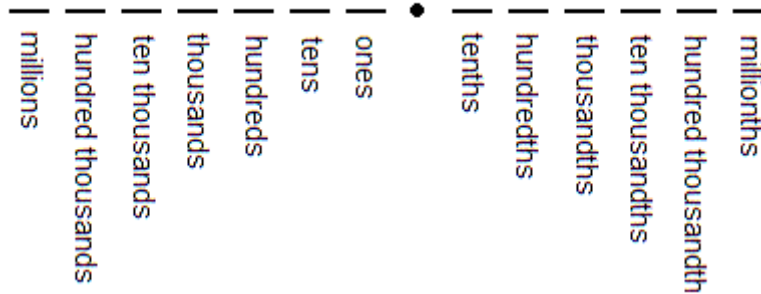


**Math Lesson 7**  
**Using Very Small and Very Large Numbers (Grade 5)**

**Instruction 7-4**  
**Decimals, Fractions, Mixed Numbers, and Positive and Negative Integers**  
**on the Number Line**

**Decimals**

Each digit in a number has a place value. A place value is the value given to a digit by its place in a number. The following figure shows the place values of numbers to the right and left of the decimal point.



**Fractions**

A fraction is part of a whole or part of a group. It might be part of a pair, half of an apple, or a three of a dozen. We use three things to show a fraction.

We use a number  
and a line under that number      8  
(also known as a fraction bar)      —  
and a number under the      13  
fraction bar

The number on the bottom tells us how many parts there are in the whole. The number on the top tells us how many parts we are using.

**Mixed Numbers**

A mixed number is a number that has a whole number and a fraction. A mixed number is similar to a fraction however there is a whole number in front of the fraction. Therefore, if you have a whole candy bar and a half of a candy bar it would be written as:

$$1\frac{1}{2}$$

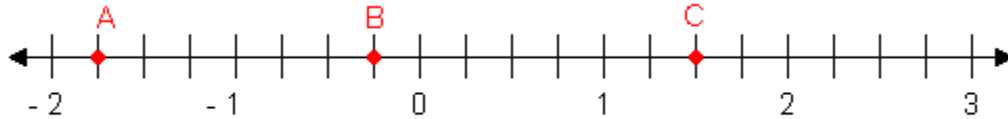
**Determining Decimals, Fractions, and Mixed Numbers on Number Lines**

Use the number line below to figure out what the value of A, B, C, and D are:



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There are a total of four lines between any two numbers. To determine the value of each line divide one by four, giving each line the value of 0.25 or one-fourth. Now you define the value of each letter:

The letter A is lying on the third line, which means A is on the three-fourths line ( $0.25 + 0.25 + 0.25 = 0.75$  or three-fourths). The letter A is after the -1 but before the -2, making it a negative number. Since the letter is before -2, the value of A is -1.75.

The letter B is lying on the first line between 0 and -1, which means that A is on the one-fourth line. B is after the 0 but before the -1. Therefore, the value of be is -0.25.

The letter C is lying on the second line, or in the center of the two numbers, therefore the letter C is lying on the half mark. The letter is between the numbers 1 and 2, making it a positive number. The value for C is 1.5.

Each of the values for the letters can be written as a decimal, fraction, or mixed number.