



Math Lesson 1 *Numbers up to the Millions (Grades 4-6)*

Instruction 1-2 *Order and Compare Whole Numbers and Decimals*

To **order** numbers is to **organize** them. This can be from least to greatest. It can also be greatest to least. Numbers like 37, 25, and 45 can be organized two ways. Look at the number in the largest place. Then arrange them 46, 37, and 25. They can also be ordered 25, 37, 46 least to greatest. Another example is 77, 987, and 3789 from least to greatest. The whole number with the most places is the greatest. You can use a number line to arrange numbers. Larger numbers are often bigger than a number line.

It is a little harder to order numbers with the same number of places. When they use the same digits, it is more difficult. An example is

5864, 4685, 5684, and 8465.

To order numbers like this, start with the largest place.

8 is the greatest digit in the thousands place. **8465** is the greatest.

The next thousands digit is **5**. There are 2 with 5 in the thousands: **5864, 5684**.

Go to the hundreds place. The greatest is **8** so the next number is **5864**.

You know **5684** is next since thousands are the same.

That leaves 4685 as the smallest or least number.

The process does not change with big numbers. Find the whole number with the most places. Order numbers one place at a time. Move to the right to numbers with less place value.

You may need to compare numbers that are the **same**. When you do this, use the equal = sign.

We use special symbols when we make comparisons and order numbers. $>$ reads "**greater than**" and $<$ reads "**less than**". A way to remember how to make the symbol is to put 2 dots beside the greater number (5:). Then put 1 dot beside the lesser number (•4). Connect the dots to make the correct symbol. (5 $>$ 4) reads 5 is greater than 4. (4 $<$ 5) reads 4 is less than 5.

The process and symbols for ordering decimals are the same. Decimals are easy if you think about money. Money amounts with cents have 2 decimal places, \$4.56. The decimal places are after the decimal, "dot", or period. The .56 in this number is 5 in the tenths place. There is a 6 in the hundredths place. You could make 56¢ with 5 dimes (tenths of a dollar) and 6 pennies (hundredths of a dollar.) Which of these two amounts is the greatest, \$10.83, or \$10.38? Order the numbers from left to right. The dollar amounts are the same. Go to the tenths place. \$10.83 is greater than ($>$) than \$10.38.



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When you order decimals, follow the same steps. Find the number with the largest or smallest value. An example problem would be to order these numbers from least to greatest. 4.69, 7.235, 4.6, 7.532, and 5.00. The correct arrangement is: $4.6 < 4.69 < 5.00 < 7.235 < 7.532$.