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Before we go any further, we must just run over a few basics. Most of this you will already know.

Remember that our number system is based on steps of 10. If you think back to the time when you did all those tens and unit calculations you set them out something like this:

h	t	u
1	0	0
	2	7
		5
	3	0
1	6	2

Here the sum is $100 + 27 + 5 + 30 = 162$

100, 27, 5 and 30 are all known as **integers** (whole numbers); 100 has three digits, 27 has two digits, 2 and 7; 30 has 3 and 0, while 5 is a digit as well as being an integer. The answer, 162, is also an integer.

100 has 1 in the hundreds column, 0 in the tens column and 0 in the units column. The number 27 has 2 in the tens column and 7 in the units; 5 is on its own in the units column, while 30 has 3 in the tens column and zero in the units. 162 is 1 hundred, 6 tens and 2 units.

Remember: there must always be something in the units column – if there are no units in an integer, put a zero. ‘Units’ and ‘ones’ are interchangeable words.

When we add the units, $7 + 5 + 0$ we get 12, which is $10 + 2$, so we put 2 in the units column and ‘carry’ the 10 to the tens column. In the tens column we now have 2 tens + 3 tens + the ten we have just carried, which of course makes 6 tens. In the hundreds column we have 1 hundred which makes our answer 162.

It is important to remember that each number must be in its proper column. Going towards the left, each number is 10 times bigger - going to the right, each number is ten times smaller.

hundred thousands	ten thousands	thousands	hundreds	tens	ones
		4	1	4	2
			1	0	6
	5	0	2	4	0
		6	0	3	0
1	2	0	2	1	7

The first number is four thousand, one hundred and forty two (4 142);

The second is one hundred and six (106);

Number three is fifty thousand, two hundred and forty (50 240);

Number four is six thousand and thirty (6 030)

The last one is one hundred and twenty thousand, two hundred and seventeen (120 217)

Now some for you to try.

On the grid below, write in the following numbers:

1. three hundred and seventy four
2. two thousand and sixty
3. thirty seven
4. ten thousand three hundred and two
5. one hundred and thirty seven thousand and forty
6. fifty thousand six hundred and twenty three
7. one thousand two hundred and thirty seven
8. sixty two thousand and ten
9. three hundred and twenty-one thousand and five
10. fifty thousand and twenty three

	hundred thousands	ten thousands	thousands	hundreds	tens	ones
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Multiplying by 10

Remember: When you multiply a number by 10 you move the digits one column to the left. Multiplying by 100 moves the digits two columns and so on.

hundred thousands	ten thousands	thousands	hundreds	tens	ones
			2	1	4

This number is 214. If you multiplied it by 10 you would move each of the digits one column to the left, so the 2 hundreds would become 2 thousands, the ten would become 1 hundred and the 4 ones would become 4 tens. There would no longer be any ones, so you would put a zero (0) to fill the empty space.

Like this . . .

hundred thousands	ten thousands	thousands	hundreds	tens	ones
		2	1	4	0

$$214 \times 10 = 2140$$

Here is a set of calculations. First of all write the number on the grid and then fill in the answer on the next line, being careful to put the numbers in the correct columns. The first has been done for you.

- | | | |
|--------------------|---------------------|--------------------|
| 1. 42×10 | 2. 2×100 | 3. 120×10 |
| 4. 357×10 | 5. 251×100 | 6. 25×100 |
| 7. 79×100 | 8. 24×1000 | |

	hundred thousands	ten thousands	thousands	hundreds	tens	ones
1.					4	2
				4	2	0
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Remember: When you divide a number by 10 you move the digits one column to the right. Dividing by 100 moves the digits two columns and so on.

hundred thousands	ten thousands	thousands	hundreds	tens	ones
		4	7	3	0

This number is 4 730. When you divide it by 10 you move each of the digits one column to the right, so the 4 thousands become 4 hundreds, the 7 hundreds become 7 tens and the 3 tens become 3 ones.

Like this . . .

hundred thousands	ten thousands	thousands	hundreds	tens	ones
			4	7	3

$$4\ 730 \div 10 = 473$$

Here is a set of calculations. First of all write the number on the grid and then fill in the answer on the next line, being careful to put the numbers in the correct columns. The first has been done for you.

- | | | |
|------------------|-------------------|-----------------|
| 1. 120 ÷ 10 | 2. 3 150 ÷ 10 | 3. 16 300 ÷ 100 |
| 4. 240 300 ÷ 100 | 5. 902 000 ÷ 1000 | 6. 60 ÷ 10 |
| 7. 190 300 ÷ 100 | 8. 20 000 ÷ 1000 | |

	hundred thousands	ten thousands	thousands	hundreds	tens	ones
1.				1	2	0
					1	2
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Complete this number crossword

1	2	3	4		
5					
6					7
				8	
		9	10		
	11				

Across

- 1 Ten thousand, four hundred and thirty-seven.
- 5 $3\,000 - 974$
- 6 $80 - 32 + 19$
- 8. 12×8
- 9. $580 + 718$
- 11. Forty six thousand, seven hundred and ninety-four.

Down

- 1 $729 + 537$
- 2 James Bond's number?
- 3 Half of 84
- 4 Nine fours
- 7 $781 - 413 + 784 + 532$
- 8 Fire, Police and Ambulance?
- 9 Four times four
- 10 Three times three times three.

Some of these you will be able to do in your head, but others will need to be worked out on paper