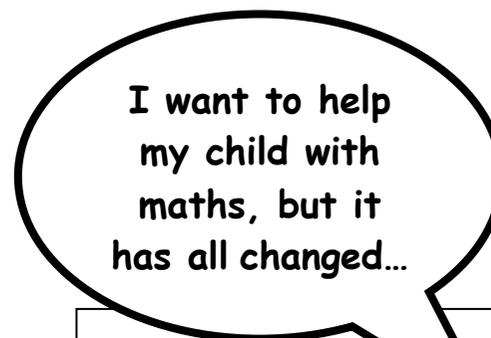


Vocabulary related to calculations

Your child will need to hear this vocabulary but may not be able to use it immediately.

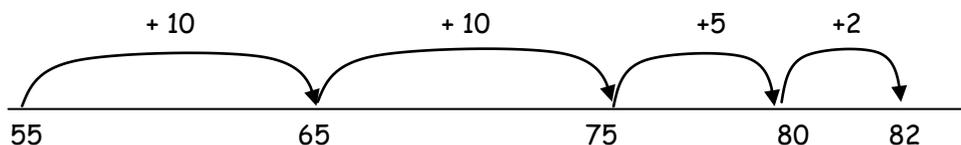
Reception	zero, one, two, three... to twenty and beyond more, less, many, few odd, even greatest, most, biggest, largest, least, fewest, smallest 1 st , 2 nd , 3 rd ... last, last but one	before, after, next, between, above, below add, more, and, make, sum, total, altogether double, half, halve take away, difference between share out, left over
Year 1	units, ones, tens, digit exchange eleventh... twentieth half-way between, above, below	+, plus, -, subtract, minus near double, half, halve =, equals, equal to
Year 2	two hundred... one thousand multiple of, sequence, continue, predict hundreds, place, place value one-, two- or three-digit number twenty-first, twenty-second round to the nearest ten part, equal parts, fraction one whole, one half, two halves one quarter, two... three... four quarters addition, one hundred more, one hundred less	lots of, groups of, x, times, multiply, multiplied by, multiple of 2x, 5x, 10x tables repeated addition/repeated subtraction one each, two each, three each... group in pairs, threes... tens equal groups of, share equally ÷, divide, divided by, divided into calculate, calculation find the difference/difference between > greater than, < less than
Year 3	approximate, approximately 3x, 4x, 6x tables one third, two thirds, one tenth	division, remainder equation
Year 4	7x, 8x, 9x tables thousands, ten thousand, hundred thousand, million, round to the nearest hundred integer, positive, negative above/below zero, minus next, consecutive 8 th , 6 th , 20 th	proportion, in every, for every decimal, decimal fraction, decimal point, decimal place increase, decrease inverse divisible by, factor, quotient multiples numerator, denominator
Year 5	≥, greater than or equal to ≤, less than or equal to ascending/descending order ≈ is approximately equal to round to the nearest thousand formula	divisibility proper/improper fraction, mixed number square numbers equivalent, reduced to, cancel percentage, per cent, %
Year 6	factorise prime, prime factor thousandth square number, 1 ² , 2 ² ...	



Burlington Junior School

The methods of calculation shown below can be used for large numbers, decimals and negative numbers. Children generally move from number line based methods towards using column methods similar to those most of us learned at school. Experienced children may make some short-cuts. These methods build up strong visual images for children that will help them develop quick and reliable mental calculation methods. They will also be learning when and how to use a calculator, and how to interpret what a calculator says in different contexts.

New method of addition for $27 + 55$



First the larger number is recorded on the number line.
Then 27 is added as 10 and 10, the 7 is added as 5 and 2 to make it easier to cross the tens boundary.
The answer is 82.

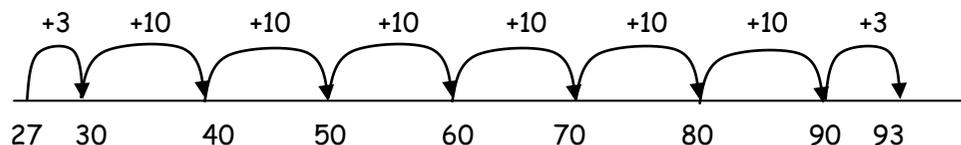
New method of subtraction for $93 - 27$

Take away



First 93 is recorded on the far right of the number line.
Then 27 is taken away as 10 and 10, the 7 is taken away as 3 and 4 to make it easier to cross the tens boundary.
The answer is 66 (shown on the number line).

Difference



First 93 and 27 are both recorded on the number line.
Then the difference between these two numbers is found by counting on.
First 3 is counted on to get to the nearest 10, then jumps of 10 and then finally 3.
The answer is 66 (found by adding all the counted on bits together).

New method of multiplication for 36×42

Grid method

	30	6
40	1200	240
2	60	12

First the 36 and 42 are partitioned to give $30 + 6$ and $40 + 2$, these numbers are written at the top and side of the grid.
Then each space in the grid is completed by multiplying together the number at the top of the grid and the number at the side, $2 \times 6 = 12$, $2 \times 30 = 60$ etc.
The answers in each space are then totalled to give the final answer of 1512.
This method is particularly useful in secondary schools when solving algebraic problems.

New method of division for $225 \div 13$

Chunking

$$\begin{array}{r}
 225 \\
 - \underline{130} \quad (10 \text{ chunks of } 13) \\
 95 \\
 - \underline{65} \quad (5 \text{ chunks of } 13) \\
 30 \\
 - \underline{26} \quad (2 \text{ chunks of } 13) \\
 4
 \end{array}$$

First write the number to be divided.
Then subtract chunks of 13. This is recorded underneath and a record kept at the side regarding how many chunks have been subtracted.
There is 95 left and so more chunks of 13 can be subtracted.
The answer is 17 remainder 4 (found by totalling the chunks)

It is always important to do calculations in a real-life context, however it is especially so for division. Discuss with your child when division problems in real-life result in answers of 17.31 (money), 18 (people in tents or taxis), $17 \frac{4}{13}$ (pizza or cakes) or 17 r4 (marbles).

These examples are intended to give an indication of the methods your child may use to calculate. **They are tools not rules**, so you may find your child has a different method. If they do, it works (for any similar calculation) and they can explain it to you – no problem!