Number Facts

By the end of year 3 children are expected to be able to recall all addition and subtraction facts to 20. The basic addition and subtraction facts are all the combinations of 1-digit numbers and the corresponding subtraction facts. To you, these are probably automatic and this instant recall is what children need to develop, as along with multiplication and division facts they form the basis of all future numberwork

There are a variety of strategies that you can use to derive or remember these facts.

Addition Properties: The commutative (or order) property means that the order of the numbers doesn't not matter: 3 + 4 = 4 + 3.

Counting on and counting back: For facts such as 9+1 or 7+2, you can count on from the greater number. Generally for subtraction, where numbers are far apart, eg 19-3 counting back is more efficient, (taking away) while for numbers which are close together eg 17-15 counting on is easier (finding difference). Counting back is usually harder for children.

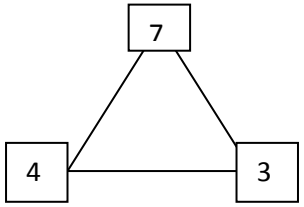
Numbers which go over 10 eg 7+6= or 13-7= pose problems for children when they are learning to calculate. They should be encouraged to use knowledge of number bonds "jump to 10" rather than count in 1s.. Children often become stuck at this counting stage, which really hinders their development of mental strategies and causes problems moving on to bigger numbers eg 7+8= 7+3+5= 15. Children are also expected to learn number bonds (as opposed to facts) to 20 and 100. Eg 55+45= 100.

Doubles and near doubles: If you have two groups of 8 objects, you have double 8, or 16, objects. Doubles facts are usually easy to remember, and can be used to learn other facts. Since 8 + 8 = 16, and 9 is one more than 8, 8 + 9 will be one more than 16, or 17.

Using 10 to add 9 and 11 : The place-value system makes adding 10 to a number easy – just increase the digit in the tens place by 1. You can use this to help add 9 to a number. Just add 10 to the number, then subtract 1. And add 10 add 1 for 11. This is generalised later to add and subtract larger numbers close to a multiple of 10 or 100.

Fact families: A fact family is a group of related facts using the same numbers. One example would be 4 + 3 = 7, 3 + 4 = 7, 7 – 3 = 4, and 7 – 4 = 3. Fact families are a very powerful tool for mastering facts; once you know one fact in a family, you can work out the other facts in the same family. Fact families are also useful for solving problems with missing numbers, such as 4 + __ = 7.

The children are familiar with the triangular image for this.



This image can also be used for multiplication and division.

The fact table overleaf shows the strategies that can be used with addition facts. Subtraction facts can be represented as follows:

11	**12**
11-11=0	12-12=0
11-10=1	12-11=1
11-9= 2	12-10=2
11-8=3	12-9= 3
11-7=4	12-8=4
11-6=5	12-7=5
11-5=6	12-6=6
11-4=7	12-5=7
11-3=8	12-4=8
11-2=9	12-3=9
11=1=10	12-2=10
11-0=11	12=1=11

And so on up to 20. You can see how many facts there are to learn! Being able to see patterns will also aid learning.

Finally, next half term our tables focus will be 8 times tables and corresponding division facts. If the children know their 4 times tables they are half way there.

Thank you for supporting us and your child in their learning.