St. Mary and St. Peter
Year Five Calculation
Multiplication

In Year Five these are some of the ways we explore multiplication
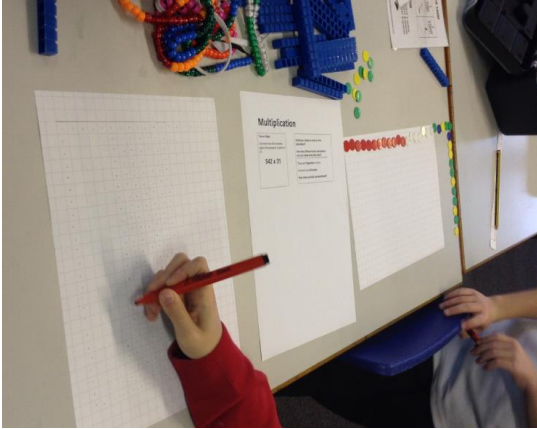
How Year Five learn multiply

In Year Five children use structured equipment such as bead strings, and numicon to count in various patterns. They also use arrays, repeated addition, pictures and numberlines to support the recall of multiplication tables up to 12x12. They also learn to multiply by 10,100 and 1000 place value grids and denes equipment.

They make links between arrays and the grid method to enable them to multiply up to 4 digit numbers by 1 and 2 digit numbers.

They identify multiples and factors, including finding all factor pairs of a number. They also explore common factors of two numbers, which supports their fraction work.

In this year they also use square numbers and cube numbers and the notation for squared (2) and cubed (3)

In Year Five we use these jottings and methods to solve our multiplication on paper
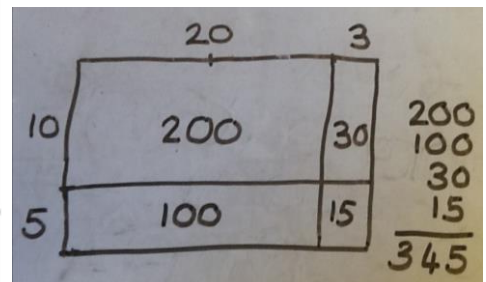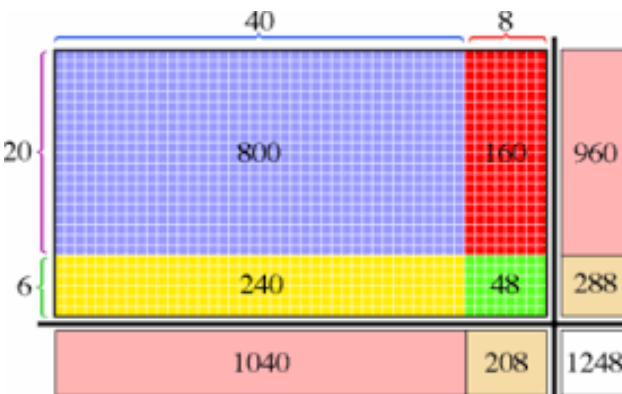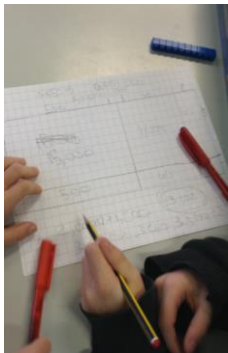
Fluency – this is about building up an understanding of how numbers work. In year 4 we look for children who can recognise multiplication can be done in any order and use known facts to help with discovering unknown times tables. For example:

If I know 8 x 36 = 288

I also know 8 x 12 x 3 = 288

and 8 x 6 x 6 = 288.

If you know 9 x 24 = 216

what else do you know?

36		
12	12	12

Use this bar model to help you work out common factors of 12 and 36. Are there some more factors you could find?

Problem Solving - importantly this is about working out ways to explore a problem. Children learn to work in a logical way and try out different ways to come to solutions. It is essential for problem solving that children are resilient and keep going even if they are finding the problem tricky. Here are some examples of Multiplication problems for Year Five.

Polly is planting potatoes in her garden. She has 24 potatoes to plant and she will arrange them in a rectangular array. List all the different ways that Polly can plant her potatoes.

Last year my age was a square number. Next year it will be a cube number. How old am I? How long must I wait until my age is both a square number and a cube?

Here are the answers to the questions.

5890, 40, 67000, 2000

Can you write three different questions that could make these numbers by multiplying and dividing by 10, 100 or 1000?

Reasoning – is about explaining thinking. Children are asked questions such as: "How do you know?", "Can you convince me this is true?", "What do you notice about these numbers?" and "Can you give another example?"

SOMETIMES ALWAYS NEVER

A square number has an even number of factors.

When you multiply a number by 10 you just add a nought and when you multiply by 100 you add two noughts.

Do you agree? Explain your answer.

Factors come in pairs, so all numbers have an even number of factors.

What do you think?

Convince me!