St. Mary and St. Peter

Year Four Calculation

Multiplication

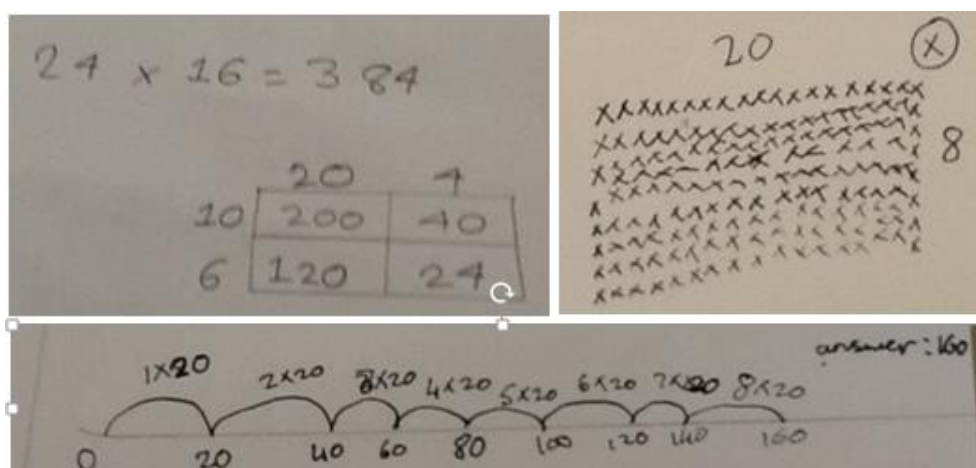## In Year Four these are some of the ways we explore multiplication

How Year Four learn multiply

In Year Four 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 learning of multiplication tables up to 12x12.

While the children are encouraged to chant and know table facts we also seek to support them in an understanding of what multiplication is. They use multiplication to solve problems and record their understanding in pictures, on number lines and using mathematical statements. Children explore the role of place value in multiplication and arrays to aid them in solving multiplication of 2 and 3 digit numbers using the "grid method" as a written layout.

In Year Four 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:

I know 4x5=20

How can you work out

40x5=

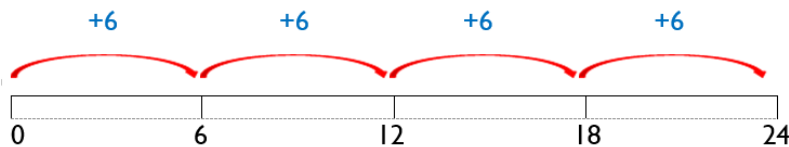What did you do?

24			
?	?	?	?

?	?	?	?	?	?	?	?

What times tables could you work out from this bar model?

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 Four.

+6   +6   +6   +6

0   6   12   18   24

Here is a jumping pattern of 6. Can you continue it? What do you notice about the ones digits?

Can you make a jumping pattern of 12. What numbers are the same in the 6 pattern and the 12 pattern?

Try to reach the target number below by multiplying three of the numbers together. Cross out any numbers you don't use.

Target number: 144

1   5   3   0   6   8

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?"

What pair of numbers could be written in the boxes?

⬜ X ⬜ = 48

$13 \times 0 = 0$

I can change one number in my number sentence to make a brand new multiplication.

Is he correct? Which number should he change? Explain your reasoning.

A two digit number multiplied by a one digit number will always give a two digit answer.

What do you think?

Convince me!