



St. Mary and St. Peter

Year Three Calculation

# Addition

**Words we use...** addition, more, plus, total, increase, how many more, add, and, make, sum, total, altogether, double, near double, one more ... ten more ... one hundred more, how many more to make ...? how many more is ... than ...? how much more is ...? equals

In Year Three these are some of the ways we explore addition

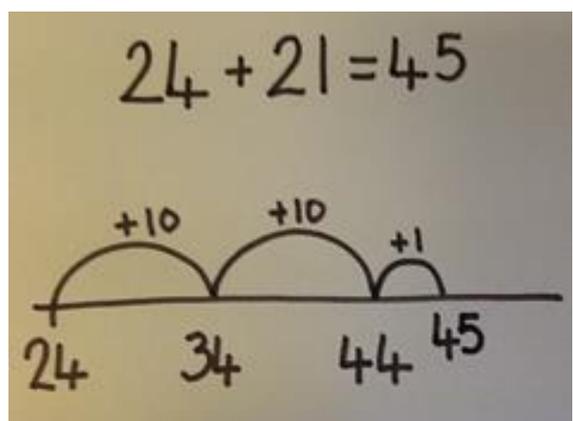
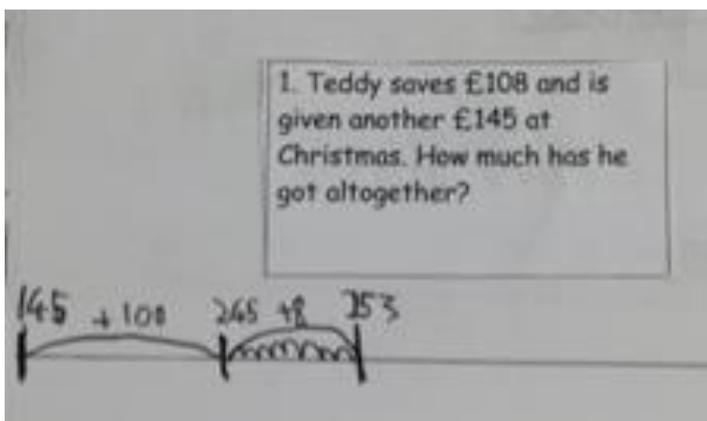


## How Year Three learn Addition

In Year Three children add numbers including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds. Children use their knowledge of place value and structured equipment, such as numicon, denes and bead strings to support their calculations. They split numbers up in various ways. Unmarked numberlines are used extensively to support children in becoming confident in both written and mental calculations. Children are encouraged to estimate the answer to a calculation and use inverse operations to check answers.

Problem solving is used to support the children in exploring and extending their understanding of this operation.

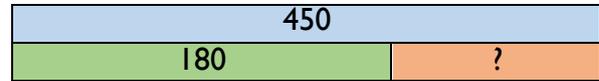
In Year Three we use these jottings and methods to solve our additions on paper



**Fluency** – this is about building up an understanding of how numbers work. In Year 3 use their knowledge of addition bonds up to 100 and use to work out increasingly complex problems into the 100's. Children look for numbers that they know bonds for, or near bonds for, when solving problems and adding up lists of numbers. For example:

Write down three numbers that add up to make 247.  $\_\_ + \_\_ + \_\_ = 247$  Write down a different set of numbers that add up to 247.

Use the bar model below to find the missing number.



**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 addition problems for Year One.

A group of aliens live on Planet Xert. Tinions have three legs, Quinions have four legs. The group has 22 legs altogether. How many Tinions and Quinions might there be? Is there more than one solution?



Three pandas ate 25 bamboo sticks. Each of them ate a different odd number of bamboo sticks. How many bamboo sticks did they each eat? Find as many ways as you can to do it.

**Always, Sometimes, Never**

2 odd numbers add up to make an even number.

3 odd numbers add up to make an even number.

Adding 8 to a number ending in 2 makes a multiple of 10.

**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?”

**Which questions are easy, which are hard?**

$$453 + 10 =$$

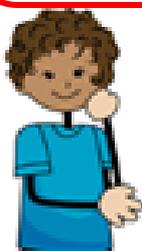
$$930 + 100 =$$

$$493 + 10 =$$

$$970 + 190 =$$

Why are some easy and some hard? Explain your reasons.

If I add two numbers together I can check my answer by taking them away afterwards. So to check  $3 + 4$ , I can do  $4 - 3$



Do you agree? Explain why.

I estimate the answer to  $489 + 109$  as 500, because  $400 + 100 = 500$



Is this a good estimate? Can you explain your answer?