Addition

Year R (EYFS)

In Early Years children begin add single digit numbers by counting on the find the answer. The children will use resources to allow them to count up the number of objects in front of them. Recording will be by adults (through the use of notes or photographs) and may include the children drawing pictures of the objects they have added. Some children may also use digits to label their pictures.

Numicon is sometimes still used in Class R:

The use of egg boxes is also introduced in Class R. By using the ten frame the children can put items into the frame to add on and by always working towards the next ten, the children begin to develop their understanding of place value.

Year 1

Children begin to write number sentences for addition problems using the symbols "+" and "=". They continue to explore adding in different contexts using a wide range of manipulatives to add. Children will also start to apply addition to missing number problems such as $7 = \_\_ - 9$.

Partition and recombine (introduce Y1)

Children should be encouraged to partition numbers in different ways to suit the problem.

Empty Number Lines (introduce Y1 but may not be empty at first. Y2 empty.)
Number lines allow the children to understand that when they add their number will get bigger. They can also help children to partition the amount they are adding into more manageable steps.
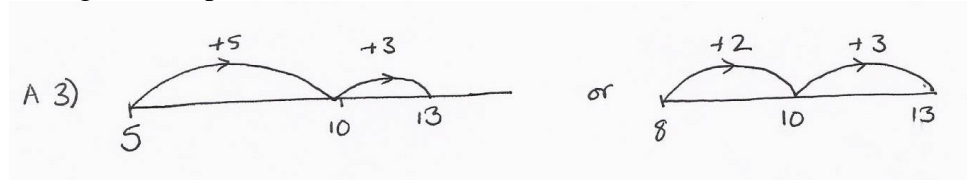
Year 2
Through continued use of manipulatives and pictorial representations for adding, children understand that adding is commutative (can be done in any order). They begin to record their addition in columns and are expected to be able to solve and record addition involving TU +U, TU + TU and U+U+U.

Year 3
In Year 3 the children start to adopt formal column addition as their main written method for adding. Children will still use dienes and other such resources to help bridge the gap from concrete and pictorial to abstract learning. They now add 3 digit numbers using this method. Children also begin to explore adding money in practical contexts using coins.

Short Method of Addition (introduce in Y2 as a way of laying out understanding shown through use of manipulatives. In Y3 the children begin to use this as their calculation method, using dienes and other similar resources).

Place value charts and dienes can be used and arranged to mimic the column method recording. By having children place dienes on to a place value chart and regroup dienes into relevant columns this develops understanding for the children to then do this in an mentally when working through the method.

Year 4
Children use column addition to add 4 digit numbers. These may be whole numbers however where appropriate, could also include decimal numbers such as HTU.t. Children will apply their written methods to solving word problems involving addition.

Year 5
Children continue to practise their use of the formal columnar method of addition and use this to add numbers with more than 4 digits including when working on multi-step word problems. They also add decimal numbers using this method.

Children are now expected to be able to use the formal method for addition for adding a wide range of numbers and when solving multi-step problems.