St Peter's

Progression in written calculation strategies for addition

(Examples indicate end of year expectations)

| Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Reception

Statutory Guidance

Have a deep understanding of number to 10, including the composition of each number.

Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

e.g. compose 6 in different ways
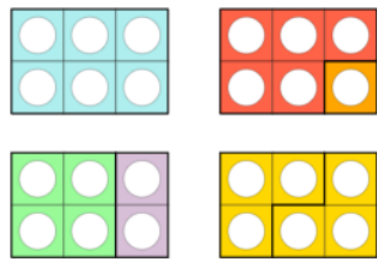
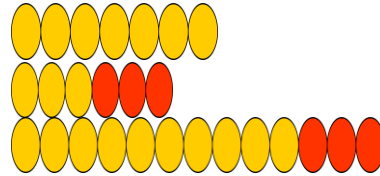e.g. How many more to make 5?

Year 1

Statutory Guidance

Add one-digit and two-digit numbers to 20, including zero.
Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems.
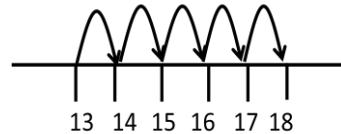
Possible representations
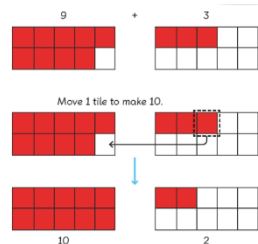e.g. 7 + 6 =
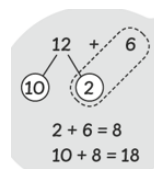Using concrete objects

Using pictorial representations
e.g. 13 + 5 =

+1 +1 +1 +1 +1

13 14 15 16 17 18

Add by making 10 e.g. 9 + 3 =

9 + 3

Move 1 tile to make 10.

10   2

Add by adding ones
e.g. 12 + 6 =

12 + 6

10   2

2 + 6 = 8
10 + 8 = 18

Year 2

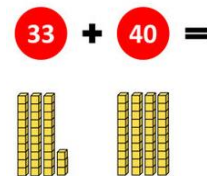**Statutory Guidance**

Solve problems with addition:
- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- applying their increasing knowledge of mental and written methods

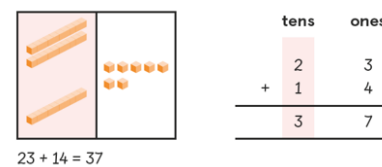Add numbers using concrete objects, pictorial representations, and mentally, including:
- a two-digit number and ones
- a two-digit number and tens
- two two-digit numbers
- adding three one-digit numbers

Using Base 10 representations to add two 2-digit numbers e.g.

33 + 40 =

Adding two 2-digit numbers using columnar addition e.g.

	tens	ones
	2	3
+	1	4
	3	7

23 + 14 = 37

Year 3

Statutory Guidance

Add numbers with up to three digits, using formal written methods of columnar addition.

Solve problems, including missing number problems, using number facts, place value, and more complex addition.
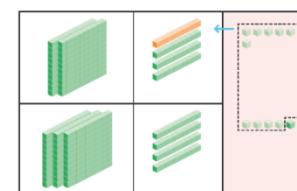
e.g. 376 + 57 = (expanded addition with renaming)

```
    3 7 6
+     5 7
      1 3
    1 2 0
    3 0 0
    4 3 3
```

Or 236 + 345 = 581 (compact addition with renaming)

h	t	o
2	3	6
+ 3	4	5
5	8	1
		1

Using Base 10 to support.

Add the ones.
6 ones + 5 ones = 11 ones
Regroup the ones.
11 ones = 1 ten + 1 one

Year 4

Statutory Guidance

Add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate
e.g. 6321 + 858

```
  6 3 2 1
+   8 5 8
  7 1 7 9
      1
```

Measurement
Based on statutory guidance linked to money and measures to 2 decimal places.
e.g. 67.75 + 21.50

```
  6 7 . 7 5
+ 2 1 . 5 0
  8 9 . 2 5
      1
```

Year 5

Statutory Guidance

Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)

e.g. 12478 + 73649

```
  1 2 4 7 8
+   7 3 6 9
  1 9 8 4 7
      1   1
```

Measurement
Based on statutory guidance linked to money and measures to 2 decimal places.

Year 6

Statutory Guidance

Solve addition multi-step problems in contexts, deciding which operations and methods to use and why

Measurement
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate