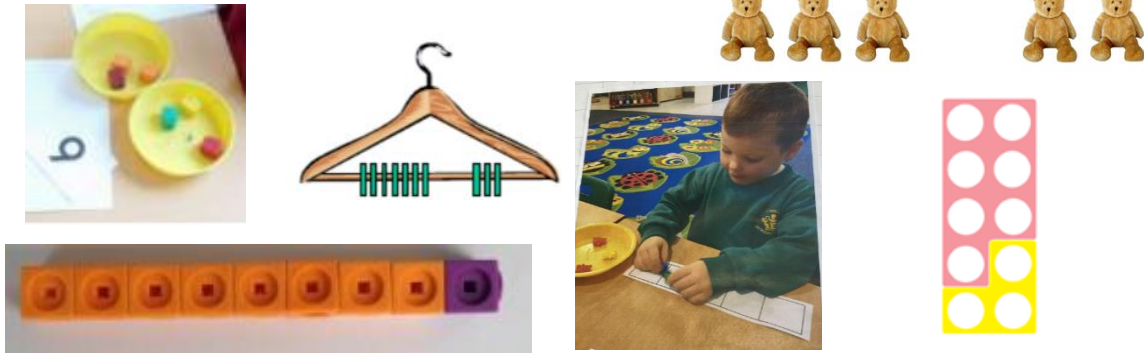


Year R

Stage 1 - Adding by combining two groups of objects

Children count sets of objects, combine then recount them using **1:1 correspondence**. Children use a range of objects, items and mathematical equipment.



Stage 2 - Addition using tens frames

Children begin to explore key addition facts working firstly with numbers to 5 and then 10. 'Numberblocks' units taught alongside to enhance children's **conceptual understanding**.



Stage 3 - Addition using part part wholes

Children begin exploring that 'a part add a part equals a whole.' Children learn that addition is **commutative** and begin writing addition calculations using the correct symbols.





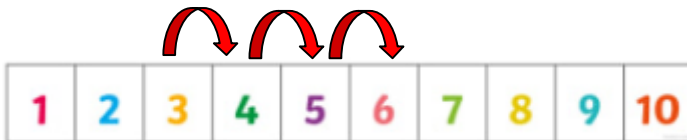
Stage 4 - Adding by counting on

Children count sets of objects, identifying the set with the greatest value. Children then count on from the greatest number using **1:1 correspondence**.



Stage 5 - Addition using structured number tracks

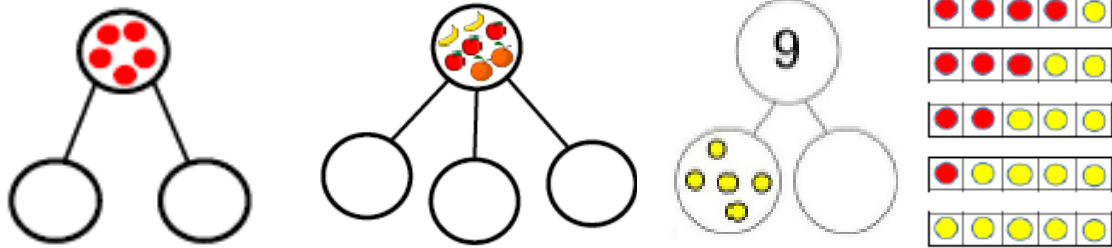
Children continue to explore addition by 'counting on' in ones along a **number track**. Children explore beginning with the greatest or smallest part to support **commutivity**.



Year 1

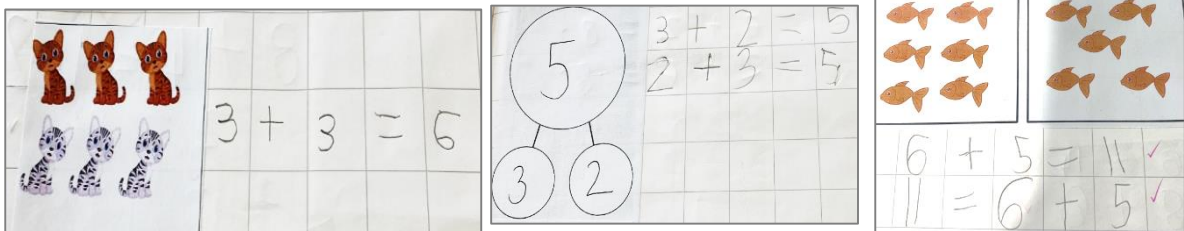
Stage 1 - Addition using part part wholes and tens frames

Children develop their knowledge of **part-part-wholes** to explore **partitioning** numbers into numerous parts. Emphasis is placed on using **concrete resources**. Learning then progresses onto exploring **fact families**, **number bonds** and finding a part.



Stage 2 - Addition by combining two groups of pictures to make a whole by counting on

Alongside stage one, addition is taught through maths stories using visual pictures. Children use their understanding of 'parts' and 'wholes' to write addition calculations.



Stage 3 - Addition using structured number lines

Children continue to explore addition by 'counting on' in ones along a **number line**. Children explore beginning with the greatest or smallest part to support **commutivity**.

Charlotte has 9 footballs. She gets 11 more for her birthday. How many footballs does she have now? 20 ✓

A number line from 0 to 20. A red dot is at 9. Three curved arrows point from 9 to 10, 10 to 11, and 11 to 12, representing counting on 11 units.

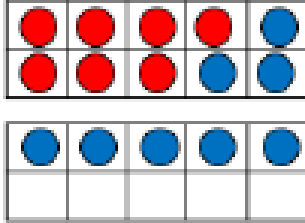
Charlie has a box with 4 sweets inside. His brother gives him 8 more. How many sweets does he have in total?

A number line from 0 to 20. A red dot is at 4. A curved arrow points from 4 to 12, representing counting on 8 units.

using number bond knowledge

Stage 4 - Addition using tens frames to make 10

Children will add numbers within 20 by first making 10. Children will use their understanding of **number bonds** within 10 to make 10 first and then add on the remaining ones.



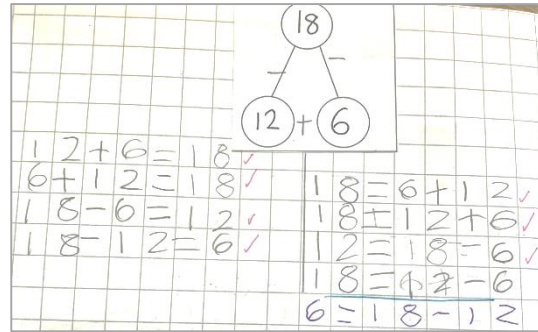
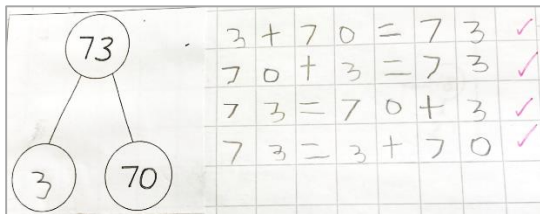
Use these frames to help you fill in the missing numbers.

First there were 6
Then 7 more were added.
Now there is 13 ✓

Year 2

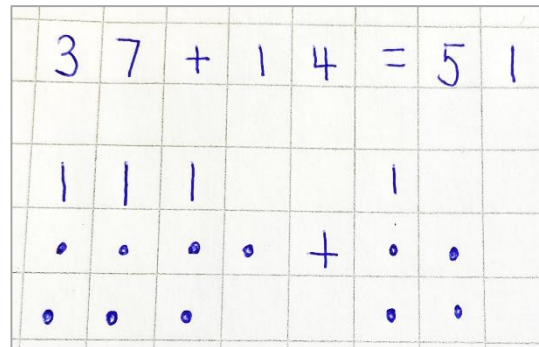
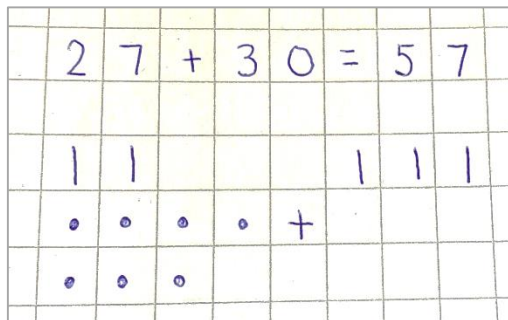
Stage 1 - Addition using part part wholes

Children develop their knowledge of **part-part-wholes** to explore **number bonds, related facts** and **fact families**. **Commutivity** and the placement of the equals symbol is explored at length during **fluency** lessons.



Stage 2 - Addition using tens and ones jottings

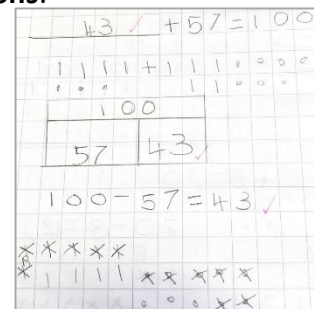
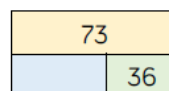
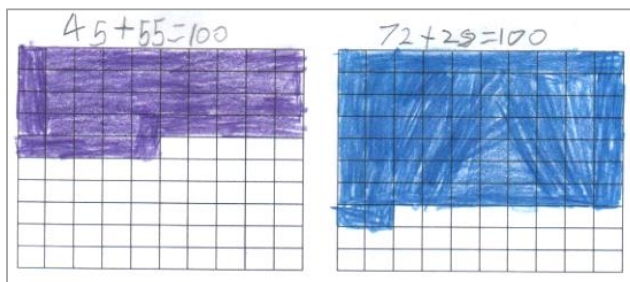
Children apply their place value knowledge to represent numbers and numerals as pictorial tens and ones jottings. The jottings mimic the **concrete dienes resources** which are explored before this stage is introduced.



Stage 3 - Addition using hundred squares and bar models

To begin with, **hundred squares** are used to solve missing number problems. Children are taught to use their **number bonds** to 10 to support them.

Bar models are formally introduced to support problem solving and missing number problems. Children apply their understanding of **part-part-wholes** and the associated **stem sentences** to generate **inverse calculations**.

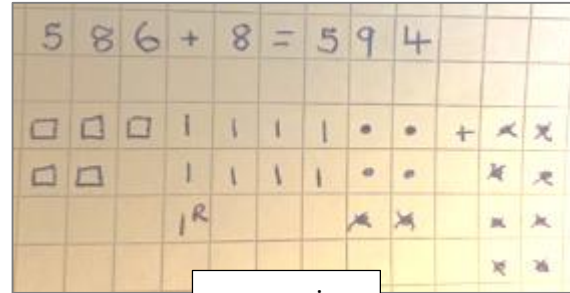
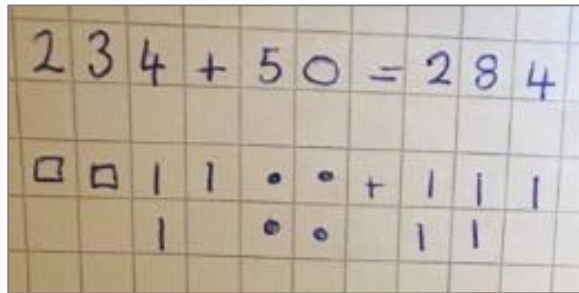


Year 3

Stage 1 - Addition using hundreds, tens and ones jottings

Children apply their place value knowledge of 3-digit numbers and represent numbers as pictorial hundreds, tens and ones jottings before adding.

Concrete resources are used extensively to model **regrouping**.



regrouping

Stage 2 - Addition using expanded column addition

Throughout this stage, children need to use their knowledge of place value and the **partitioning** method alongside **concrete resources**. Addition is organised more formally to begin to prepare children for more formalised

column addition.

$324 + 32 = 356$			
Hundreds	Tens	Ones	
300	20	4	
+	0	30	2
300	50	6	= 356

regrouping

$258 + 174 = 432$			
Hundreds	Tens	Ones	
200	50	8	
+	100	70	4
400	30	2	= 432
100	10		

Stage 3 - Addition using column addition (up to 3-digit numbers)

Children begin by adding the ones, tens and then the hundreds. **Fluency** lessons explore crossing ten and hundred boundaries where **regrouping** is necessary. **Concrete resources** are used extensively to model.

H	T	O	
3	4	6	
+	2	2	1
5	6	7	









regrouping

H	T	O	
2	8	7	
+	1	3	4
4	2	1	
1	1		

Year 4

Stage 1 - Addition using column addition (up to 4-digit numbers) with no regrouping

Children continue to use the formal method of column addition, but with two 4-digit numbers. To begin with they work with calculations that do not require any **regrouping**. **Place value grids** should be used to support understanding alongside column addition.

1,000s	100s	10s	1s
			
			

	Th	H	T	O
	3	2	4	2
+	2	2	1	3
	5	4	5	5

	Th	H	T	O
	1	2	3	4
+		3	4	5
	1	5	7	9

They should also complete calculations which include numbers with different amounts of digits.

Stage 2 - Addition using column addition (up to 4-digit numbers) with regrouping

Building on from what they learnt in the previous stage, children should add together two 4-digit numbers where they have to complete **regrouping**. First, they explore calculations where there is one opportunity to regroup, but in different places in the calculation. Then, they move onto calculations where there are multiple regroupings.

	Th	H	T	O
	3	3	5	7
+	2	4	3	4
	5	7	9	1
				1

	Th	H	T	O
	1	2	6	5
+		4	9	2
	1	7	5	7
				1

	Th	H	T	O
	4	8	4	4
+	2	1	5	6
	7	0	0	0
	1	1	1	

Year 5

Stage 1 - Addition using column addition (more than 4-digits)

Children use column addition to complete calculations with numbers with more than 4-digits. This includes calculations with no **regrouping** and multiple regroupings. It also includes the addition of numbers that have a different amount of **digits** and more than two numbers.

	TH	TH	H	T	O
	5	8	4	2	7
+	2	1	3	2	2
<hr/>					
	7	9	7	4	9

no regrouping

	TH	TH	H	T	O
	3	2	4	6	1
+		4	3	5	2
<hr/>					
	3	6	8	1	3
				1	

one regrouping

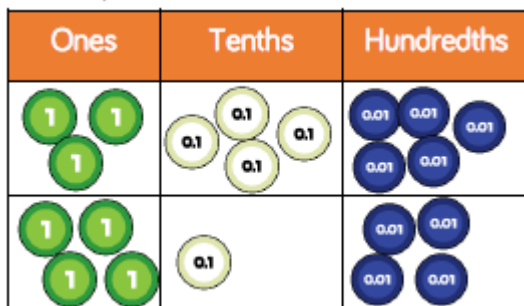
	TH	TH	H	T	O
	3	5	6	2	2
	2	4	3	1	6
+		7	4	3	0
<hr/>					
	6	7	3	6	8
	1	1			

multiple regrouping

Stage 2 - Addition of decimals using column addition (same amount of decimal places)

As part of their learning on **decimals**, children add decimals greater than one with the same amount of decimal places, using column addition.

Place value grids and counters are extremely helpful in ensuring children are understanding the value of each **digit** and understanding when to **regroup**.



	o	.	t	h
	3	.	4	5
+	4	.	1	4
<hr/>				
	7	.	5	9

no regrouping

	o	.	t	h
	4	.	5	5
+	3	.	0	7
<hr/>				
	7	.	6	2
				1

one regrouping

	o	.	t	h	
	4	.	4	2	
+	7	.	6	3	
<hr/>					
	1	2	.	0	5
	1				

multiple regrouping

Stage 3 - Addition of decimals using column addition (different amount of decimal places)

Children now move into adding decimals greater than one with different amounts of decimal places, using column addition.

They focus on the following:

- Lining-up columns correctly
- putting in 0 to hold the place (these have been written in pencil in the examples)
- checking that their answers are sensible

Place value grids and counters continue to be used.

Ones	Tenths	Hundredths
1	0.1 0.1 0.1	
1 1 1	0.1 0.1 0.1 0.1 0.1	0.01 0.01

	o	.	t	h
	1	.	3	0
+	3	.	5	2
	4	.	8	2

no regrouping

	o	.	t	h
	4	.	4	2
+	1	.	6	0
	6	.	0	2
	1			

one regrouping

	o	.	t	h
	4	.	4	0 0
+	7	.	0	4 4
	1 1	.	4	4 4
	1			

multiple regrouping

Year 6

Children in Year 6 continue to master the method of column addition with a variety of numbers, including decimals.