Maths tea and chat

St Mary's Maths teaching and learning using the White Rose scheme of work.
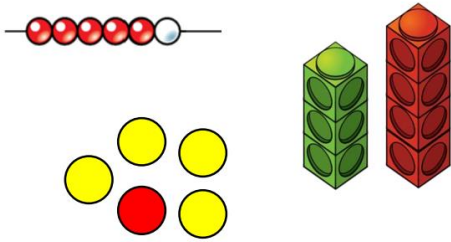
_____ + _____ = 6

Which of the images could help to complete the number sentence? Explain why.

Can you think of a number sentence for each of the other two images?

1,000s	100s	10s	1s
1,000 1,000 1,000	100 100	10 10 10 10	1 1
1,000 1,000	100 100	10	1 1 1

Here are some counters.

Group the counters by colour.
Fill in the gaps in the sentence and say it out loud.

_____ red counters plus _____ yellow counters is equal to _____ counters.

Complete the part-whole model and the number sentence.

$$\square + \square = \square$$

Use cubes to solve the following calculations.

$5 + 3 = \square$

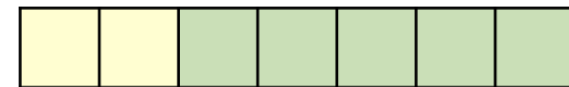$8 + 1 = \square$

Year 1 Addition

The Addition Symbol

Notes and Guidance

Children are introduced to the addition symbol (+) for the first time. They combine this with the equal to symbol (=) to create their first number sentences e.g. $3 + 2 = 5$
At this stage, children focus on a specific order to the number sentence (a + b = c). They focus on the language associated with this number sentence.For example, 7 apples plus 3 apples is equal to 10 apples. First, then and now stories and bar models may help children understand the number sentences.
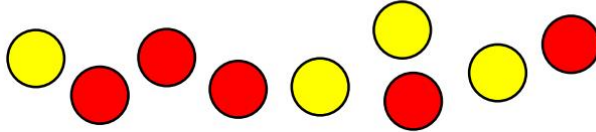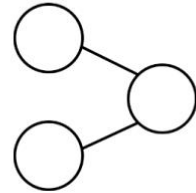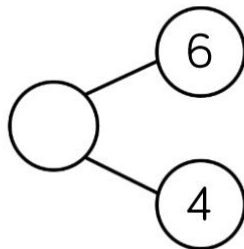
Complete the number sentences.

___ + ___ = 7   7 = ___ + ___

___ + ___ = 7   7 = ___ + ___

Use the number cards to make 4 addition sentences.

| 4 | 7 | 3 |

Using concrete apparatus, can you talk about the relationships between the different flowers?
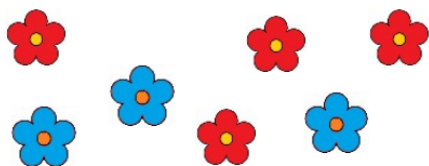
One relationship shown by this part-whole model is $15 + 5 = 20$
Can you write all associated number sentences in the fact family?
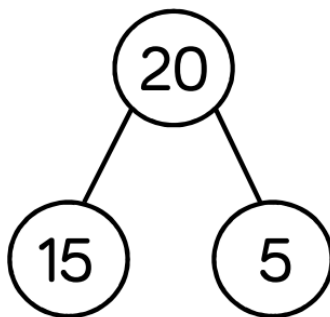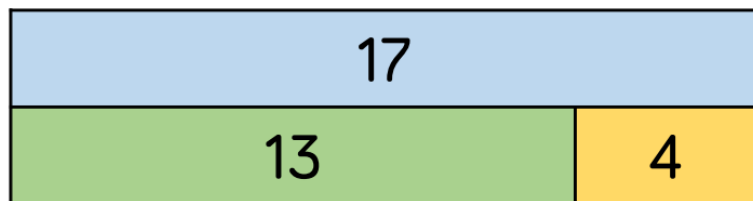

Look at the bar model below.
Can you write all of the number sentences in the fact family?

17	
13	4

Year 2 Addition

Add and Subtract 10s

Notes and Guidance

Children should make use of place value to add and subtract 10s from a given number within 100
The key teaching point again is the importance of the tens digit within the given numbers, and children should be encouraged to see the relationship.

For example $64 + 20 = 84$

Use the place value charts and concrete materials to complete the calculations.

Tens	Ones

$$\begin{array}{r} 2\ 3 \\ +\ 4\ 0 \\ \hline \\ \hline \end{array}$$

Tens	Ones

$$\begin{array}{r} 5\ 6 \\ -\ 3\ 0 \\ \hline \\ \hline \end{array}$$

Use Base 10 to help complete the bar model.

176	40

Match the calculation to the correct representation and solve.

26 + 461

H	T	O

553 − 32

H	T	O

544 + 22

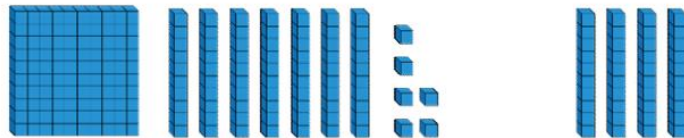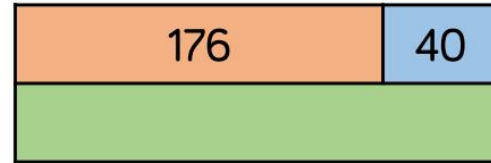| H	T	O

Add 3-digit & 1-digit Numbers

Notes and Guidance

Children add ones to a 3-digit number, with an exchange. They must understand that when adding ones it can affect the ones column and the tens column.
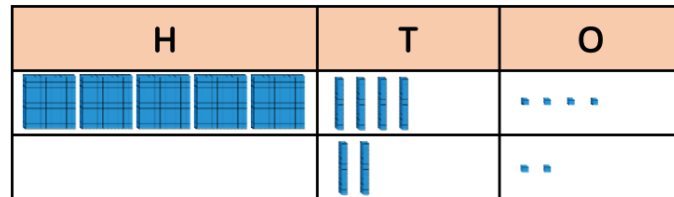
Children must also know that we can only hold single digits in each column, anything over must be exchanged. The use of 0, e.g. 145 − 5 is important so they know to use zero as a place holder.

Solve 46 + 367 using Base 10

H	T	O
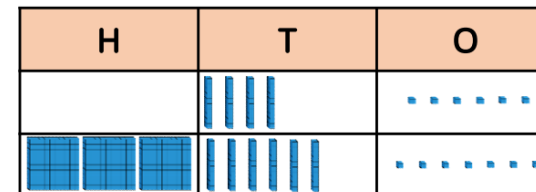
		4	6
+	3	6	7

Use column addition to calculate.

?	
29	367

254	68
?	
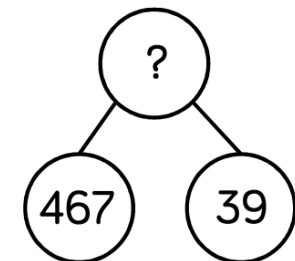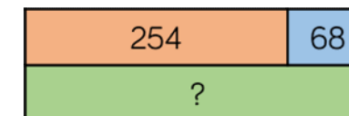
Use counters and a place value grid to calculate 243 + 326

Use counters and a place value grid to calculate 3,242 + 2,213

1,000s	100s	10s	1s
1,000 1,000 1,000	100 100	10 10 10 10	1 1
1,000 1,000	100 100	10	1 1 1

Now calculate 3,242 + 213 in the same way.
What is the same and what is different?

Work out the missing numbers.

	Th	H	T	O
	4	__	6	__
+	2	5	__	1
	__	7	8	9

Add Two 4-digit Numbers (1)

Notes and Guidance

Children use their understanding of addition of 3-digit numbers to add two 4-digit numbers with no exchange. They use concrete equipment and a place value grid to support their understanding alongside column addition.

Two children completed the following calculation:

1,234 + 345

Dora: My answer is 1,589.

My answer is 4,684. Alex

Both of the children have made a mistake in their calculations.
Calculate the actual answer to the question.
What mistakes did they make?

The actual answer is 1,579
Dora's mistake was a miscalculation for the 10s column, adding 30 and 40 to get 80 rather than 70
Alex's mistake was a place value error, placing the 3 hundred in the thousands column and following the calculation through incorrectly.

Use a place value grid and counters to calculate 4,434 + 3,325

Show the column method alongside.

Th	H	T	O

How does the column method represent the concrete?

Calculate.

	3	2	4	6	1
+		4	3	5	2

		4	8	2	7	6
+			5	6	1	3

Can you think of a sensible story to represent each calculation?

Use the column method to calculate:

54,311 + 425 + 3,501

35,622 + 24,316 + 743

3,942 + 14,356 + 88

Children will build upon previous learning of column addition. They will now look at numbers with more than four digits and use their place value knowledge to line the numbers up accurately.
Children will learn that when there are more than ten thousands in the thousands column these can be exchanged for ten thousands.

Work out the missing numbers.

	?	4	?	3	?
+	2	?	5	?	2
	7	8	5	2	9

Here is a bar model.

A	B
631,255	

A is an odd number which rounds to 100,000 to the nearest ten thousand.
It has a digit total of 30

B is an even number which rounds to 500,000 to the nearest hundred thousand.
It has a digit total of 10

A and B are both multiples of 5 but end in different digits.
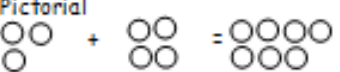
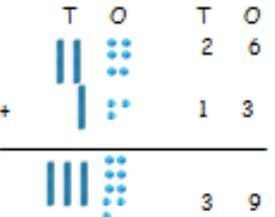What are possible values of A and B?

Year 6 Addition

Children consolidate their knowledge of column addition and subtraction.

Calculate.

	3	4	6	2	1
+	2	5	7	3	4

67,832 + 5,258

St Mary's Primary Pulborough

Calculation Policy Addition Final 2019

Step 1	Step 2
Concrete **Pictorial** **Abstract** 3 + 4 = 7	6 + 7 = 13 Use base ten to show how we add across the 10s bridge. Exchanging ones for a 10.

Step 3a	Step 3b – exchange with diennes
T O T O 2 6 + 1 3 3 9 a) Without regrouping (lots of practise) *Use laminated sheets with this on to support *Use jottings to support this too	T O T O 2 9 + 1 4 4 3 1 a) With regrouping

Step 4 Just column method increasing in number of digits.

T O
4 3
+ 2 9
_____
7 2
1

a) Without regrouping (lots of practise)
b) With regrouping

*Introduce decimals in context as early as possible with money and/or when children are ready for it.

*Across ALL year groups, support children with concrete-pictorial-abstract