



Somerset Bridge Primary School

Aspire - Brave - Care - Collaborate

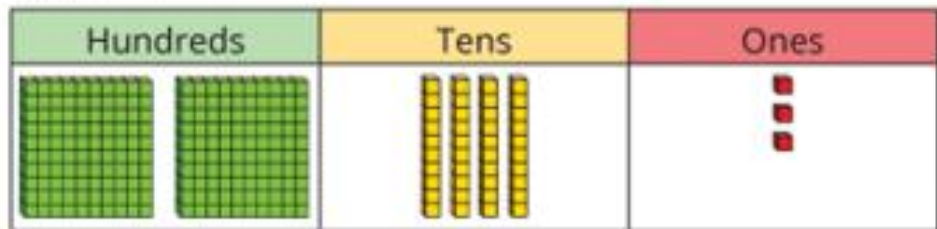
The four operations used for Maths at
Somerset Bridge Primary in Year 3.

Year 3

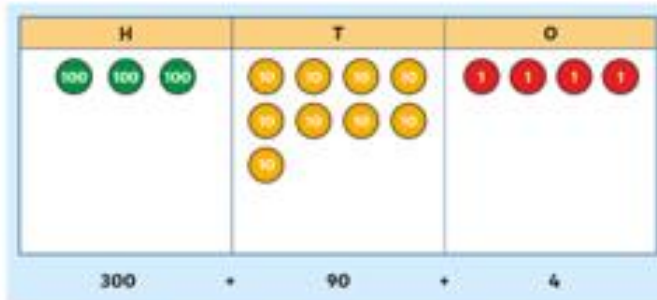
Addition

Use place value charts to represent the digits prior to adding.

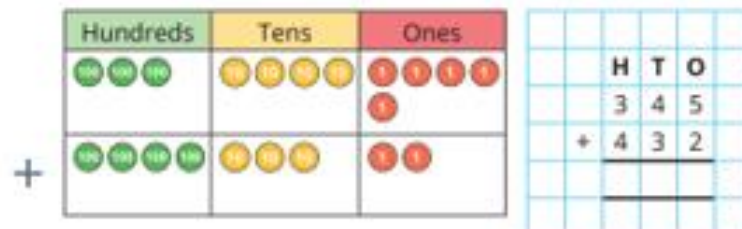
▶ $243 + 5 = \underline{\quad}$



394 can be represented using counters on a place value chart.



Find the sum of 345 and 432



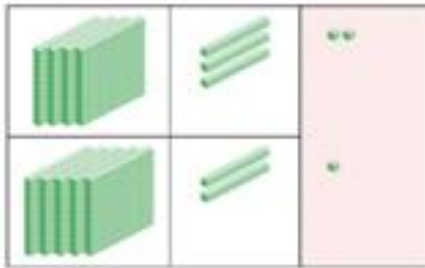
$432 + 521 =$

Add two three digit numbers.

Children need to use equipment first to support their understanding of place value.

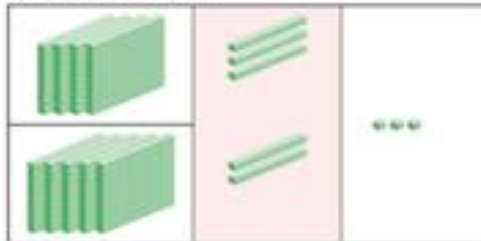
Children to work gradually to three digit + three digit starting without regrouping and gradually moving towards regrouping.

Step 1 Add the ones.
2 ones + 1 one = 3 ones



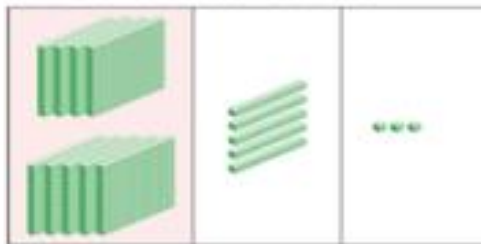
	h	t	o
	4	3	2
+	5	2	1
	3		

Step 2 Add the tens.
3 tens + 2 tens = 5 tens



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

Step 3 Add the hundreds.
4 hundreds + 5 hundreds = 9 hundreds



	h	t	o
	4	3	2
+	5	2	1
	9		
	5		
	3		

$$432 + 521 = 953$$

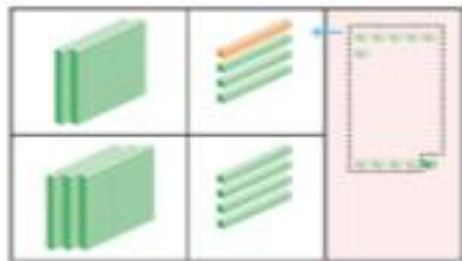
There are 953 flowers altogether.

Use 'regrouping' to describe rearranging a column.

Use the vocabulary of 'Addend, addend and sum.'

$$\begin{array}{c}
 1 + 7 = 8 \\
 \swarrow \quad \downarrow \quad \searrow \\
 \text{addend} \quad \text{addend} \quad \text{sum}
 \end{array}$$

$$236 + 345 =$$



	h	t	o
236	2	3	6
+ 345	3	4	5
-----	5	8	1

Step 2: Add the tens.
 $1 \text{ ten} + 3 \text{ tens} = 4 \text{ tens} = 8 \text{ tens}$



	h	t	o
236	2	3	6
+ 345	3	4	5
-----	5	8	1

Step 3: Add the hundreds.
 $2 \text{ hundreds} + 3 \text{ hundreds} = 5 \text{ hundreds}$



	h	t	o
236	2	3	6
+ 345	3	4	5
-----	5	8	1

$$236 + 345 = 581$$

Using the bar to find missing digits.
 It is important for children to use the bar in this way to encourage the use of it to aid with problem solving.

Bar Model to support understanding of problem solving:



A man sold 230 balloons at a carnival in the morning. He sold another 86 balloons in the evening. How many balloons did he sell in all?

?	
230	86
Morning	Afternoon

Subtraction

Subtract up to 3 digits from 3 digits.

Very important for children to use dienes equipment along with a place value chart to support.

Use the vocabulary of 'Minuend, subtrahend and difference.'

$$8 - 1 = 7$$

minuend subtrahend difference

Only when secure with the method should exchanging be introduced.

Subtract 723 from 975.

Step 1 Subtract the ones.
5 ones - 3 ones = 2 ones



Step 2 Subtract the tens.
7 tens - 2 tens = 5 tens



Step 3 Subtract the hundreds.
9 hundreds - 7 hundreds = 2 hundreds



$$975 - 723 = 252$$

Step 2 Regroup 1 hundred into 10 tens.
Subtract the tens.
11 tens - 6 tens = 5 tens



Step 3 Subtract the hundreds.
4 hundreds - 2 hundreds = 2 hundreds



$$520 - 269 = 251$$

Subtract 269 from 520.

Step 1 Regroup 1 ten into 10 ones.
Subtract the ones.
10 ones - 9 ones = 1 one



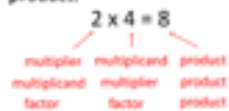
Using the bar to find missing digits.

It is important for children to use the bar in this way to encourage the use of it to aid with problem solving.

315	$315 - 185 = ?$		
<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">185</td> <td style="width: 50%; text-align: center; padding: 5px;">?</td> </tr> </table>	185	?	$185 + ? = 315$
185	?		
<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">?</td> <td style="width: 50%; text-align: center; padding: 5px;">315</td> </tr> </table>	?	315	$185 + 315 = ?$
?	315		
<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">185</td> <td style="width: 50%; text-align: center; padding: 5px;">315</td> </tr> </table>	185	315	$? - 185 = 315$
185	315		

Multiplication

Use the vocabulary of 'Factor, multiplier, multiplicand and product.'



Use arrays to understand multiplications. Children need to ensure that the arrays are drawn or constructed accurately, using straight rows and columns to clearly show repeated addition.

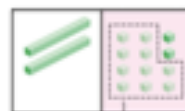
2×10	
7×2	
3×10	
5×3	

Children should be able to recall the 2, 5, 10, 3, 4 and 8 times tables.

Multiple a two digit number by a one digit.

Let's Learn

1 There are 4 groups of 23 fish. How do we multiply 23 by 4?



4 ones \times 3 = 12 ones
12 ones = 1 ten 2 ones



Step 1 Multiply the ones by 4.

$$\begin{array}{r}
 \text{t} \quad \text{o} \\
 2 \quad 3 \\
 \times \quad 4 \\
 \hline
 1 \quad 2
 \end{array}$$

Step 2: Multiply the tens by 4.

t	o
2	3
x	4
8	2
8	0

Step 3: Add the products.

t	o
2	3
x	4
8	2
+ 8	0
9	2

$23 \times 4 = 92$

There are 92 fish in 4 tanks.

Using the bar to solve multiplication problems.

Whole unknown

4 children go to the cinema. They each pay £15. How much do they spend altogether?

?			
15	15	15	15

Division

Dividing by grouping understanding the concept of remainders.

Use the vocabulary of 'Dividend, divisor and quotient.'

$32 \div 4 = 8$

dividend divisor quotient

Start with using the real objects-or objects that represent the calculation.

$13 \div 4 = 3 \text{ Remainder } 1$

Dividing using short division.

Once children are secure with division as grouping and demonstrate this using number lines, arrays etc., **short division** for larger 2-digit numbers should be introduced, initially with carefully

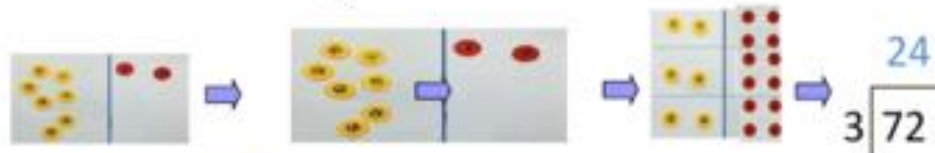
	T	U
	2	3
3	6	9
	●●●	●●●●●

Remind children of correct place value, that 69 is equal to 60 and 9, but in short division, pose:

selected examples requiring no calculating of remainders at all. Start by introducing the layout of short division by comparing it to an array.

- How many 3's in 6? = 2, and record it above the 6 tens.
- How many 3's in 9? = 3, and record it above the 9 ones.

Once children demonstrate a full understanding of remainders, and also the short division method taught, they can be taught how to use the method when remainders occur within the calculation (e.g. $72 \div 3$), and be taught to 'carry' the remainder onto the next digit.



Using the bar to aid the solving of division problems.

Four children bought a present for £28. They shared the costs equally. How much did each child pay?

