



Somerset Bridge Primary School

Aspire - Brave - Care - Collaborate

The four operations used for Maths at
Somerset Bridge Primary in Year 4.

Year 4

Addition

Adding numbers with up to 4 digits.

Again this should start with the children using dienes to support them with lots of discussion about the value of each digit.

Use 'regrouping' to describe rearranging a column.

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


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

Step 2 Add the tens. 7 tens + 3 tens = 1 ten = 10 tens
Rearrange the tens. 10 tens = 1 hundred and 2 tens




$$\begin{array}{r}
 5 \quad 6 \quad 7 \quad 8 \\
 + 1 \quad 2 \quad 3 \quad 5 \\
 \hline
 6 \quad 8 \quad 0 \quad 3
 \end{array}$$

Step 3 Add the hundreds.
6 hundreds + 2 hundreds + 1 hundred = 9 hundreds



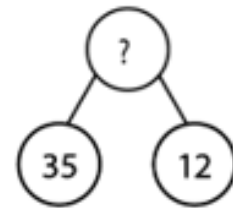
$$\begin{array}{r}
 5 \quad 6 \quad 7 \quad 8 \\
 + 1 \quad 2 \quad 3 \quad 5 \\
 \hline
 9 \quad 1 \quad 0 \quad 3
 \end{array}$$

Step 4 Add the thousands.
5 thousands + 1 thousand = 6 thousands



$$\begin{array}{r}
 5 \quad 6 \quad 7 \quad 8 \\
 + 1 \quad 2 \quad 3 \quad 5 \\
 \hline
 6 \quad 9 \quad 1 \quad 0 \quad 3
 \end{array}$$

Part-part-whole reasoning or the part-whole model is the idea that numbers can be split into parts.



Children using this model will see the relationship between the whole number and its component parts, helping learners to make the connections between addition and subtraction

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.

This is not a form of getting the correct answer but helping to guide children to the correct operation.

Alison jogs 6,860 metres and Calvin jogs 5,470 metres. How far do they jog altogether?



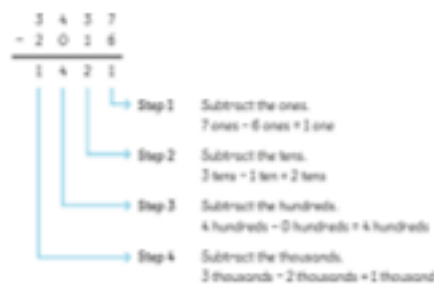
Subtraction

To subtract with numbers up to four digits including exchanging when children are secure.

Again, children need to use *dienes* to support their learning.

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

$$\begin{array}{c}
 8 - 1 = 7 \\
 \swarrow \quad \downarrow \quad \searrow \\
 \text{minuend} \quad \text{subtrahend} \quad \text{difference}
 \end{array}$$



There aren't enough ones.



$$\begin{array}{r}
 5 \quad 2 \quad 7 \quad 10 \\
 - 3 \quad 1 \quad 6 \quad 9 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 2 \quad \cancel{7} \quad 5 \quad 4 \\
 - 1 \quad 5 \quad 6 \quad 2 \\
 \hline
 1 \quad 1 \quad 9 \quad 2
 \end{array}$$

Part-part-whole reasoning or the part-whole model is the idea that numbers can be split into parts.

As with 'addition' use the language of 'regrouping' when rearranging a column.

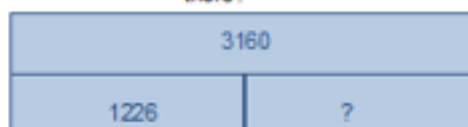


Children using this model will see the relationship between the whole number and its component parts, helping learners to make the connections between addition and subtraction

Using the bar model 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.

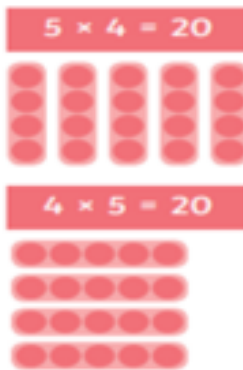
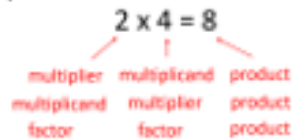
There are 3,160 books in a shop. 1,226 are in English and the rest are in French. How many French books are there?



Multiplication

Use arrays to model multiplication. Arrays are arranged in columns and rows. They show factors are commutative.

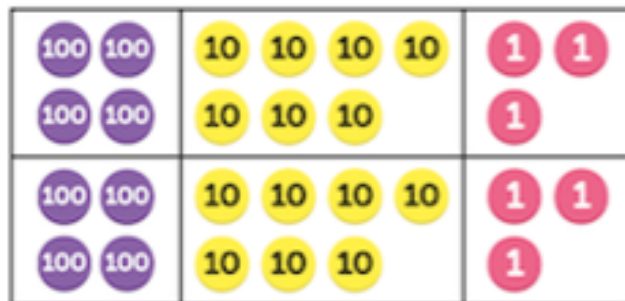
Use the vocabulary of 'Factor, multiplier, multiplicand and product.'



Children to know all times tables to 12 x 12.

Ladder method to be used with children multiplying both two and three digits by a one digit number.

$$\begin{array}{r}
 314 \\
 \times 3 \\
 \hline
 12 \quad (3 \times 4) \\
 30 \quad (3 \times 10) \\
 + 900 \quad (3 \times 300) \\
 \hline
 942
 \end{array}$$



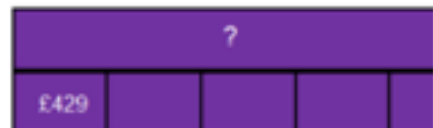
$$\begin{array}{r}
 \quad 4 \quad 7 \quad 3 \\
 \times \quad \quad \quad 2 \\
 \hline
 \hline
 \hline
 \end{array}$$

Multiplying using the bar.

A computer costs 5 times as much as a television. The television costs £429.

Cost of the computer

How much does the computer cost?



Division

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

$$\begin{array}{c} 32 \div 4 = 8 \\ \text{dividend} \quad \text{divisor} \quad \text{quotient} \end{array}$$

Dividing up to three digit numbers by a one digit number using short division.

Only when the children are secure with dividing a two digit number should they move onto a 3 digit number.



	H	T	U	
	0	2	5	r1
5	1	2	6	
		•••••	••••	=

Use dienes to show understanding of division.



Dividing using the bar.

Desmond and Melissa collect cards. They have 192 cards in all. Melissa has three times as many cards as Desmond. How many cards does Desmond have?

192			
D=?	M	M	M