



Seagrave Village Primary School Calculation Policy

EYFS

Addition - EYFS

Concrete

Use toys and general classroom resources for children to physically manipulate, group/regroup.



Use specific maths resources such as counters, multilink cubes, numicon etc.

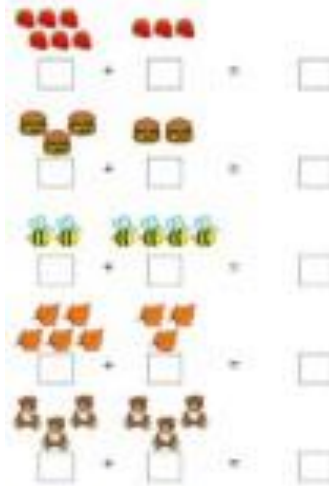


Use visual supports such as ten frames, part part whole and addition mats, with physical objects and resources that can be manipulated.

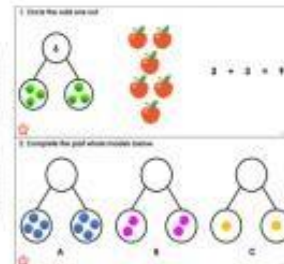
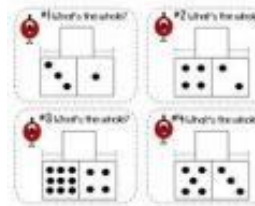
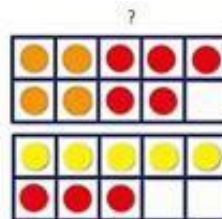


Pictorial

Visual representations of number sentences so children are able to count the total.



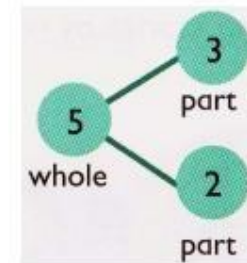
Use of number frames, mats, lines, blocks with pictures / icons.



Abstract

Symbols and numbers practiced so children are able read an addition calculation.

$$5 + 2 = 7$$



When the children are ready they begin to record a number sentence and calculate the addition problem. Use of whiteboards, chalks or squared paper.

Solve number sentences

$$6 + \square = 8$$

$$\square + 2 = 8$$

Vocabulary

groups, altogether, total, equals, add, plus, number line, digits, more, make, counting on

Subtraction - EYFS

Concrete

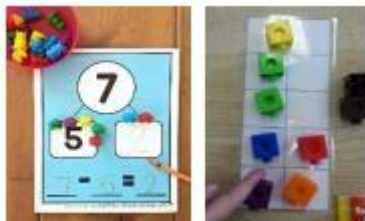
Use toys and general classroom resources for children to physically manipulate, group/regroup.



Use specific maths resources such as counters, multilink cubes, bead strings numicon etc.

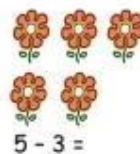
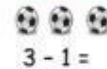


Use visual supports such as ten frames, part part whole and subtraction mats, with physical objects and resources that can be manipulated.

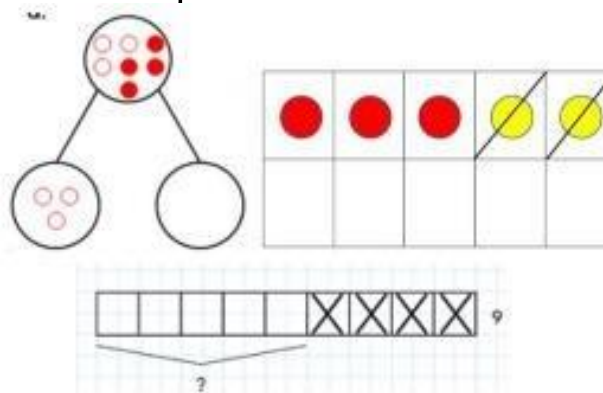


Pictorial

Visual representations of number sentences so children are able to cross out or cover quantities to support.



Use of number frames, mats, blocks with pictures / icons.



Use number lines so children can begin to count backwards placing their finger on the numbers.

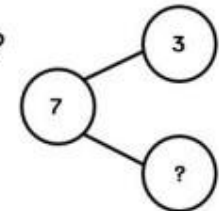
Abstract

Symbols and numbers practiced so children are able read an subtraction calculation.

$$10 - 6 = 4$$

3	?
7	

$$7 - 3 = ?$$



When the children are ready they begin to record a number sentence and calculate the subtraction problem. Use of whiteboards, chalks or squared paper.

Solve number sentences

$$6 - \square = 2$$

$$\square - 4 = 2$$

Vocabulary Subtract, how many left, take away, minus, equals, less, smaller

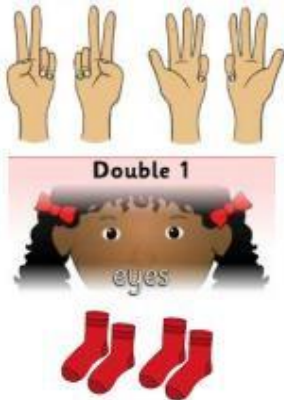
Multiplication - EYFS

Concrete

Use toys and general classroom resources for children to physically manipulate to make 2 equal groups.



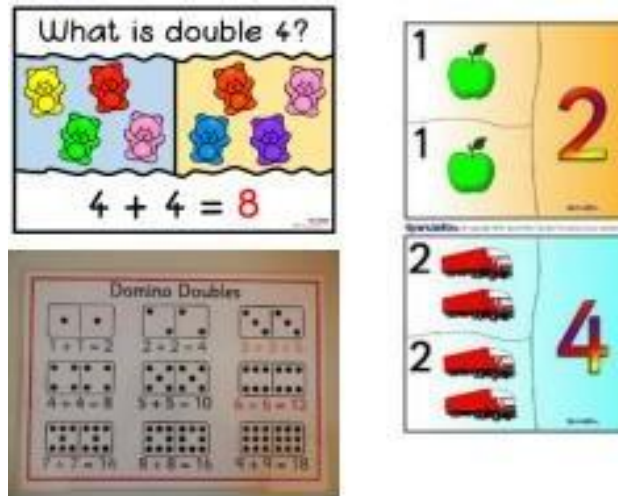
Use specific maths resources such as counters, multilink cubes, numicon, dominoes, pairs of objects etc.



Use physical and real-life examples that allow children to see the concept of doubling as adding two equal groups.

Pictorial

Visual representations of number sentences so children are able to see the concept of doubling as adding two equal groups.



Abstract

Doubling questions presented as addition calculations to model adding two equal groups.

$$2 + 2 = \boxed{}$$

$$5 + 5 = \boxed{}$$

$$9 + 9 = \boxed{}$$

$$12 + 12 = \boxed{}$$

Vocabulary Double, pair, the same as, altogether, add, group

Division - EYFS

Concrete

Use toys and general classroom resources for children to physically cut objects, food or shapes in half.

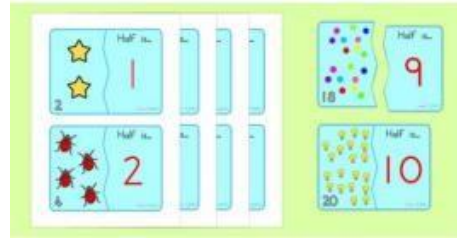


Use specific maths resources such as counters, multilink cubes, playdoh etc for children to share into two equal groups.

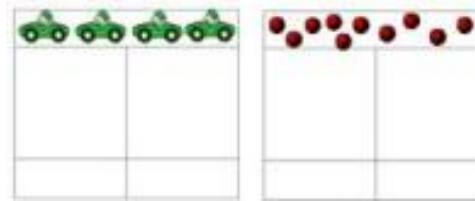


Use visual supports such as halving mats and part part whole to share the physical objects.

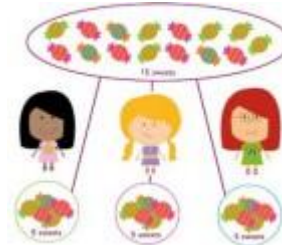
Pictorial



Visual representation of pictures and icons so children are able to see the concept of halving in relation to subitising i.e. 4 is made of 2 groups of 2, so half of 4 is 2.



Bar models with pictures and icons to find 2 equal parts of a number. To further support the understanding of how two halves make a whole.



Pictures to create and visualise 3 or more equal groups.

Abstract

Not required in EYFS

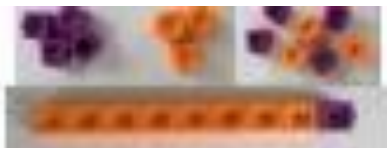
Vocabulary Share, sharing, fairly, equal amounts, split, half

Year 1

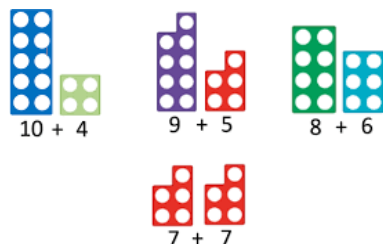
Addition – Year 1

Concrete

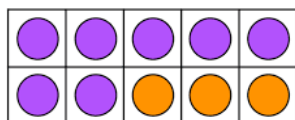
Use cubes to add two numbers together as a group or in a bar. Other physical objects used like cotton wheels, teddies for children that need to see real items.



Use specific maths resources such as base10, numicon, number bead string and count from the larger number.

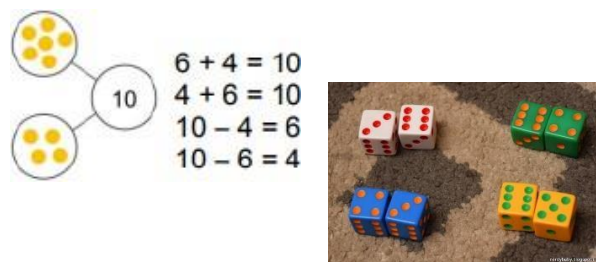


Use ten frames to allow two numbers to make 10. And use 2 frames to make 20.

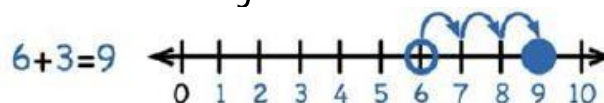


Pictorial

Visual representations of number sentences so children are able to count the total. Use of part part whole model for numbers to be separated and added together.



Use of 2/3 dice or domino to count the amounts by counting on from the largest number.



Use of number lines to allow the children to count in ones and visual see the amount increasing when adding the 2nd number.

Abstract

Children record a number sentence with the correct symbols and calculate the addition problem.

$$7 + 6 =$$

$$15 + 4 =$$

$$11 +$$

$$= 18$$

$$+ 2 = 10$$

$$20 = 4 +$$

Children place the largest number in their head and count on the smaller number, with their fingers, to find the answer.

2. Anna buys a banana for 21p and an apple for 7p. How much does she spend all together?



When ready, children solve one-step problems using their addition skills.

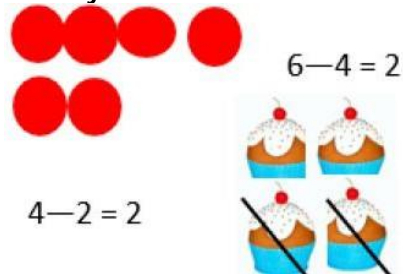
Vocabulary

add, more, total, plus, make, altogether, equals, count on, number line, double, most, ones

Subtraction – Year 1

Concrete

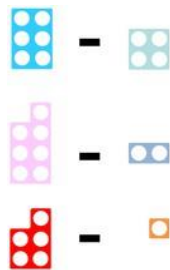
Use physical objects like, multilink cubes, cotton wheels, teddies for children to show objects can be taken away.



Use specific maths resources such as counters, number bead string and children move them back as they go.

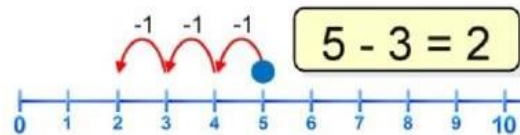
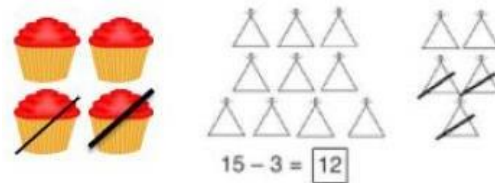


Use ten frames to make amounts and then take them away. Use numicon to show the difference between the numbers.

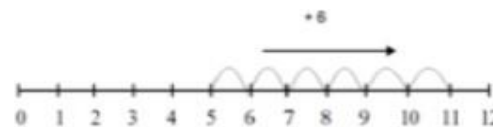


Pictorial

Visual representations of number sentences so children are able to cross out the drawn objects to show what has been taken away.



Use of number lines to allow the children to count back in ones and visual see the amount decreasing when taken away the 2nd number.



Use of inverse operation to find the difference and count on.

Abstract

Children record a number sentence with the correct symbols and calculate the subtraction problem.

$$7 - 6 = \square$$

$$15 - 8 = \square$$

$$17 - \square = 8$$

$$\square - 2 = 10$$

$$13 = 16 - \square$$

Children place the largest number in their head and count back the smaller number, with their fingers, to find the answer.

1. Lucy has 12 sweets and gives 5 sweets away to James. How many sweets does she have left?



When ready, children solve one-step problems using their subtraction skills.

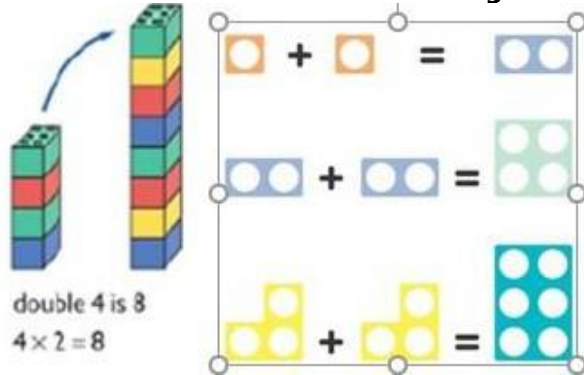
Vocabulary

Take, take away, less, minus, subtract, leaves, count back/up, difference, how many left, how much less

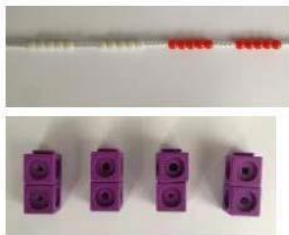
Multiplication – Year 1

Concrete

Use manipulatives (cubes, numicon) to demonstrate doubling.



Use specific maths resources such as cubes, numicon, number bead string and count in multiples of amounts.



Use different objects to add equal groups, including coins.



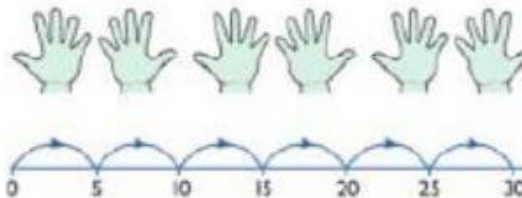
Pictorial

Visual representations to show how to double numbers.

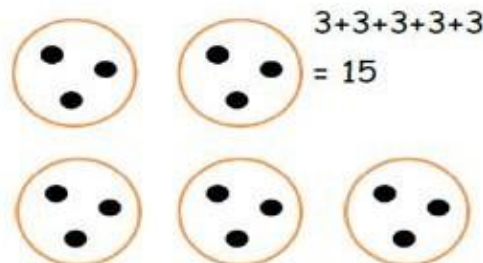
Double 4 is 8



Use number lines or pictures to count in multiple amounts.

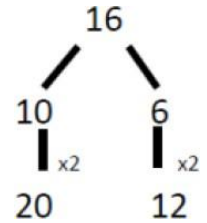


Use of grouping amounts together and using our addition skills to find the totals.



Abstract

Children partition a number and then double each part before combining it back together.



Children record a number sentence with the correct symbols and calculate the multiplication problem.

$$5 \times 2 = \square$$

$$2 \times 5 = \square$$


$$\square \times 10 = 40$$

Children count in multiples to find the missing numbers in the sequence.

$$2, 4, 6, \square, 10,$$

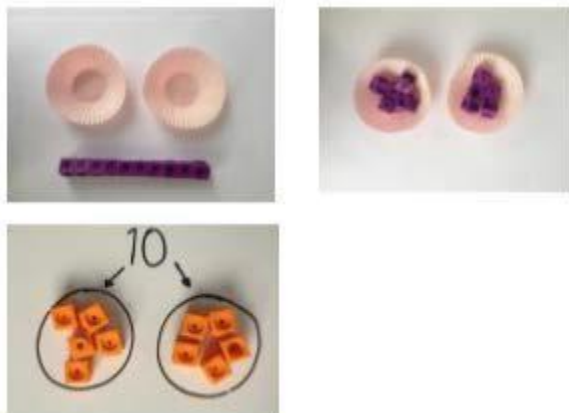


Children write repeated addition

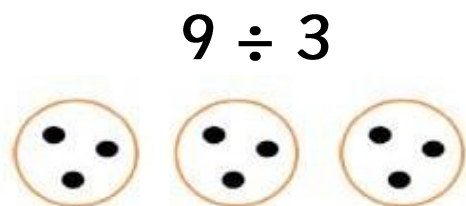
		sums to solve multiplication problems 
Vocabulary	Groups of, lots of, times, altogether, multiply, amounts of, double, repeated addition	

Division – Year 1		
Concrete	Pictorial	Abstract

Use manipulatives and physical objects (cubes, counters, teddies, sweets) to demonstrate halving amounts into 2 groups.



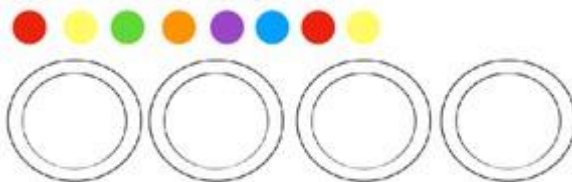
Use circle templates for the children to share amounts into groups of 3, 4 and 5.



Visual representations to show how to half numbers and to share amounts equally.

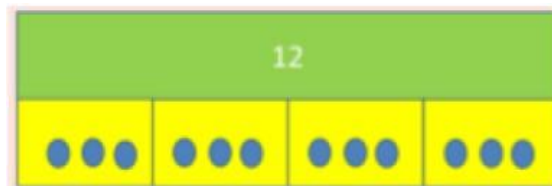


$$8 \div 2 = 4$$

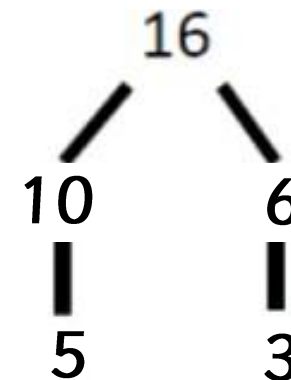


8 skittles shared by 4 plates = _____ skittles each.

Use of circles or bar model to show how to share amounts equally.



Children partition a number and then half each part before combining it back together.



Children record a number sentence with the correct symbols and calculate the division problem.

$$10 \div 2 = \square$$

$$12 \div 3 = \square$$

Vocabulary

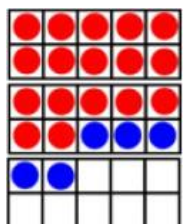
Share, share equally, one each. Groups of, lots of, divide, half

Year 2

Addition – Year 2

Concrete

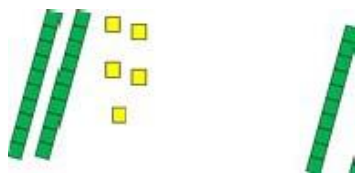
Use specific maths resources such as base10, numicon, number bead string and add 2-digit numbers to 1-digit numbers, 2 digit numbers to 2 digit numbers and adding 3 digit numbers.



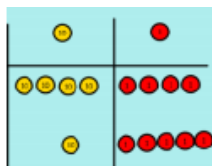
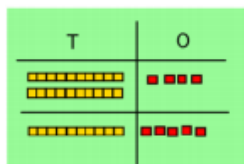
$$17 + 5 = 22$$

Use ten frame to make 'magic ten'

Use ten frames, numicon, base 10 to explore that the ones digit does not change when adding a multiple of 10. e.g. $25 + 10 = 35$

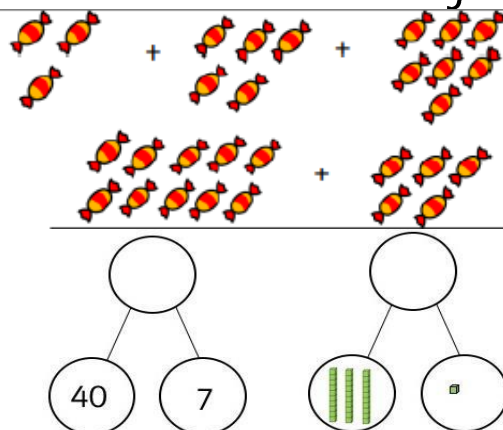


Use base 10, numicon to partition the tens and ones. Then add the tens together and then add the ones together.

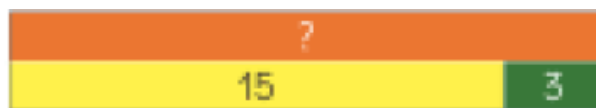


Pictorial

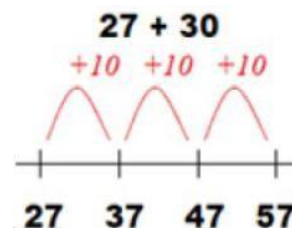
Visual representations of number sentences so children are able add amounts together. Use of part part whole model for numbers to be partitioned and added together.



Use of bar models used, especially when numbers are missing and children solve the problems.



Use of number lines to allow the children to count in ones/tens and visual see the amount increasing when adding the



Abstract

Children record a number sentence with the correct symbols and calculate the addition problem.

$$22 + 7 = \square$$

$$22 + 20 =$$

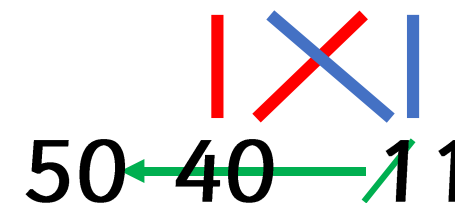


$$22 + 27 =$$



Children use their partition method to partition the tens and ones and then bring the amounts back together.

$$24 + 27$$



Children move any tens from the ones to the tens section.

2nd number.

$$88 + \square = 92$$

$$\square + 59 = 99$$

Children apply their addition skills to one-step and two-step problems.

Vocabulary

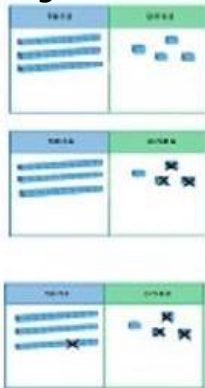
add, more, total, plus, make, altogether, equals, count on, number line, double, most, ones, tens, partition, sum

Subtraction – Year 2

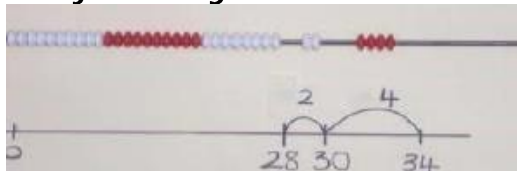
Concrete

Use specific maths resources such as base10, numicon, number bead string and subtract 1-digit numbers from 2-digit numbers, 2 digit numbers from 2 digit numbers and subtracting 3 digit numbers.

$$34 - 13 = 21$$



Use ten frames, numicon, base 10 to explore that the ones digit does not change when subtracting a multiple of 10. e.g. $25 - 10 = 15$



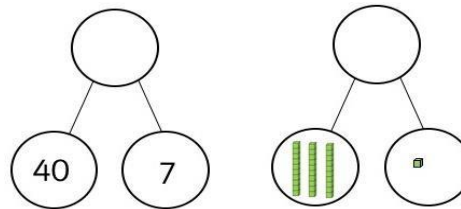
Use number bead strings to model counting to the next ten. Using addition understanding to find the difference between amounts.

Pictorial

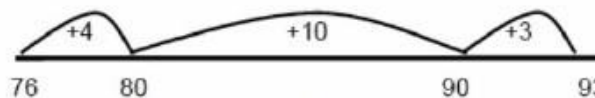
Visual representations of number sentences so children are able subtract amounts away. Use of part whole model for numbers to be partitioned and taken away.



$$43 - 21 = 22$$



Use of number lines to allow the children to count on to the next 10 and continue to count on finding the difference between the two amounts.



Abstract

Children record a number sentence with the correct symbols and calculate the subtraction problem.

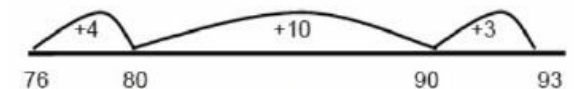
$$37 - 6 = \square$$

$$37 - 20 = \square$$

$$37 - 26 = \square$$

Children use their partition method to partition the tens and ones and take amounts away.

$$93 - 76 = \square$$



Children count on to the nearest ten to find the difference when the ones cannot be taken away from each other.

$$47 - \square = 41$$

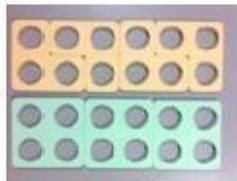
$$\square - 59 = 17$$

		Children apply their subtraction skills to one-step and two-step problems.
Vocabulary	Take, take away, less, minus, subtract, leaves, count back/up, difference, how many left, how much less, fewer, partition, least, distance between	

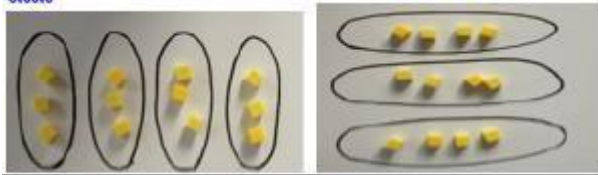
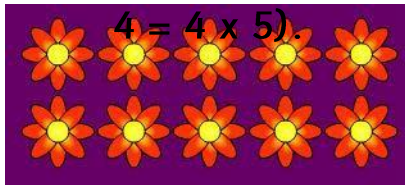
Multiplication – Year 2

Concrete

Use cubes, numicon, counters, number bead strings to put groups of amounts together. Children count in multiples with fingers used for repeated addition.

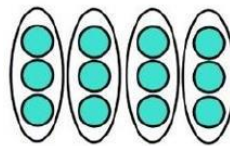
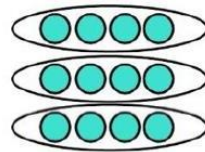
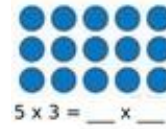


Use of arrays for children represent different equations as a multiplication is commutative (5 x 4 = 4 x 5).

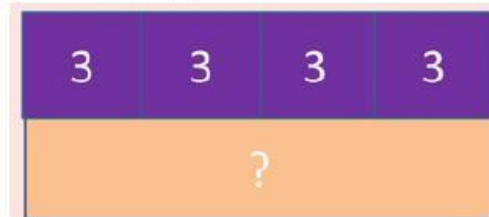
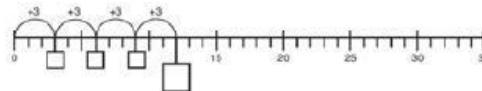
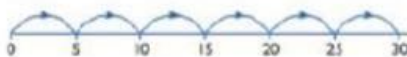


Pictorial

Visual representations using arrays to show representation of multiples.



Use bar models, number lines or pictures to count in multiple amounts.



Abstract

Children partition a number and then double each part before combining it back together.

Double 32 = Double
30
Double 2

Children record a number sentence with the correct symbols and calculate the multiplication problem.

$$7 \times 3 = \square$$

$$3 \times 7 =$$



$$\square \times 5 = 60$$

Children count in multiples to find the missing numbers in the sequence.



3, 6, 9, 15,

Vocabulary

Groups of, lots of, times, altogether, multiply, amounts of, double, repeated addition, arrays, commutative

Division – Year 2

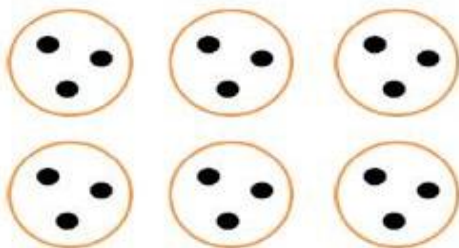
Concrete

Use manipulatives and physical objects (cubes, counters, teddies, sweets) to demonstrate sharing amounts into groups.



Use circle templates for the children to share amounts into groups of 3, 4 and 6.

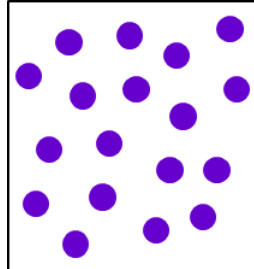
$$18 \div 6$$



Use of number bead strings to show how the inverse operation (multiplies of amounts) can find the answer.

Pictorial

Visual representations to show how amounts can be shared equally into different groups.



18 circles are divided into:

3 groups.

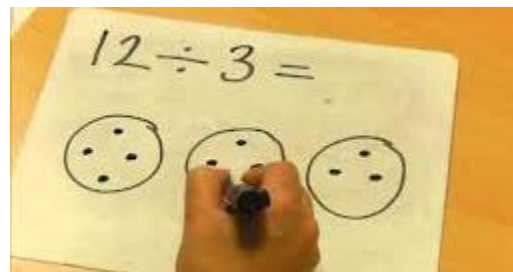
Division fact:

groups of

Division fact:

$18 \div 6 = 3$

Use of circles or bar model to show how to share amounts equally.



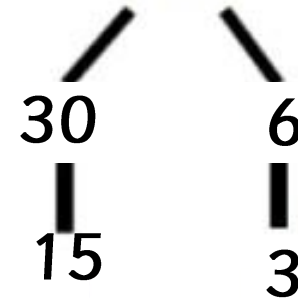
Use multiples knowledge to count up to the amount.

$$12 \div 3$$

Abstract

Children partition numbers that require the tens to be halved.

36

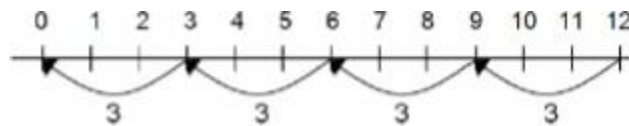
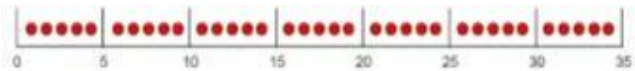


Children record a number sentence with the correct symbols and calculate the division problem.

$$80 \div 10 = \boxed{}$$

$$28 \div 4 = \boxed{}$$

Children use their multiples knowledge to answer the problems or share amounts into groups using their



circles.

Vocabulary

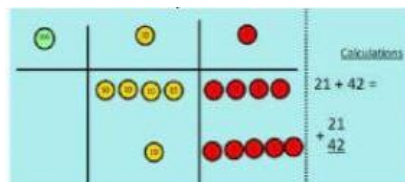
Share, share equally, one each. Groups of, lots of, divide, half, division, left, left over, grouping

Year 3

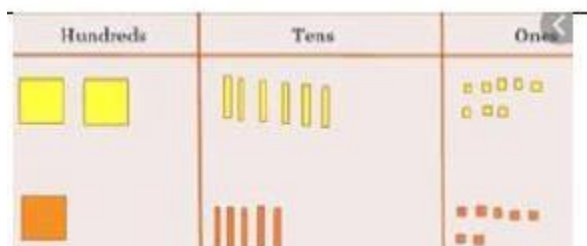
Addition – Year 3

Concrete

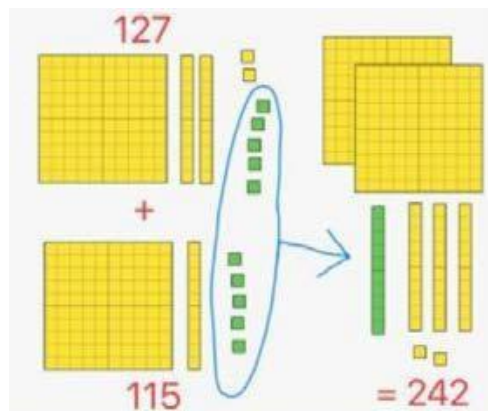
Use specific maths resources such as base10, numicon, PV counters to line up hundreds, tens and ones



Children need to be confident with place value counters before moving on.

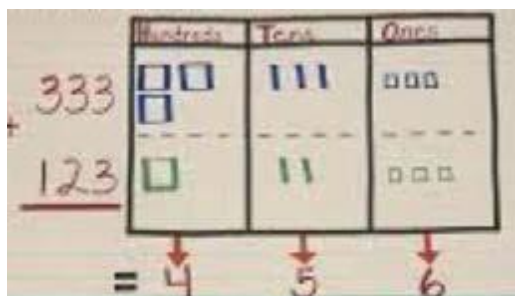


Use base 10, numicon, PV counters to show exchanging ten ones for a ten.

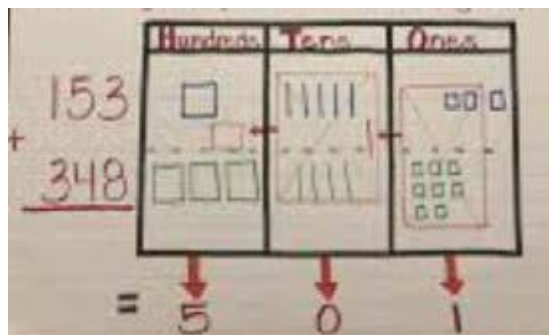


Pictorial

Visual representations of number sentences so children are able add amounts together. Use of column method model for numbers to be partitioned and added together.



Children can draw a representation of the grid to further support their understanding of carrying the ten underneath the line.



Abstract

Children record a number sentence with the correct formal column method and calculate the addition problem with no bridging.

$$\begin{array}{r} 223 \\ + 114 \\ \hline 337 \end{array}$$

Children use expanded form when numbers cross over the ones, tens, hundreds and then when ready apply this to the column addition method.

$$25 + 48$$

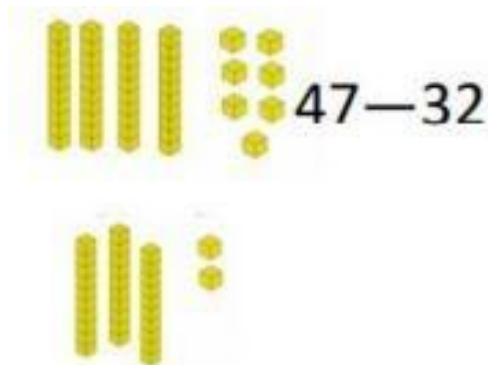
$$\begin{array}{r} 20 + 5 \\ 40 + 8 \\ \hline 60 + 13 \end{array}$$

$$\begin{array}{r} 536 \\ + 85 \\ \hline 621 \\ 11 \end{array}$$

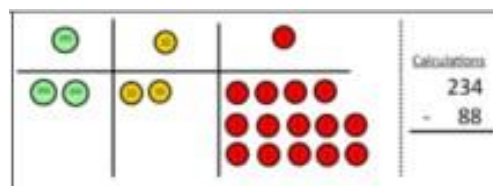
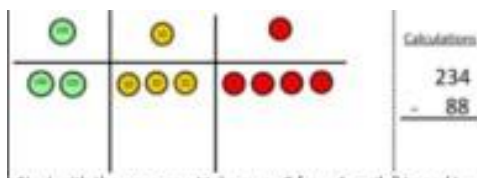
Vocabulary	add, more, total, plus, make, altogether, equals, count on, double, most, hundreds, ones, tens, partition, sum of increase, column method, inverse, bridging
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Subtraction – Year 3		
Concrete	Pictorial	Abstract

Use specific maths resources such as base10, numicon, PV counters to line up hundreds, tens and ones

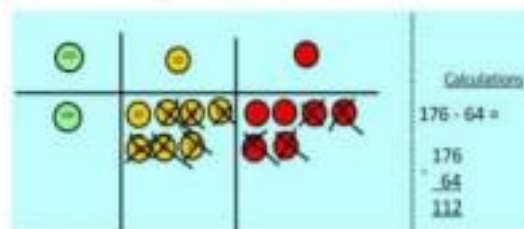


Children need to be confident with place value counters before moving on.

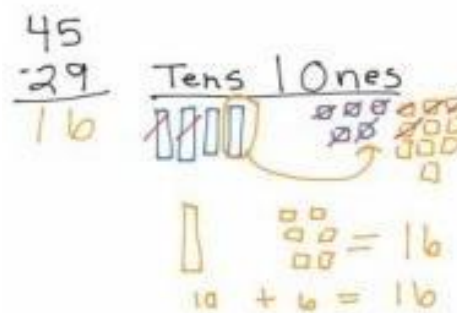


Use base 10, numicon, PV counters to show exchanging ten ones for a ten.

Visual representations of number sentences so children are able subtract amounts away from each other.



Children can draw a representation of the base 10 or PV counters to further support their understanding of exchanging tens/hundreds to solve a problem.



Use of number lines to find the difference between amounts.

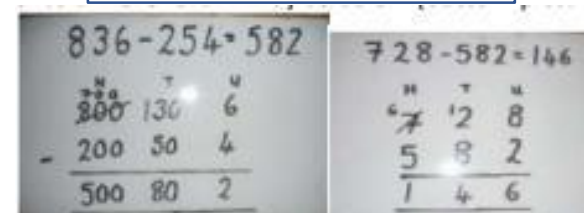
Children record a number sentence with the expanded form and calculate the subtraction problem with no exchanging.

$$47 - 24$$

$$40 \quad 7$$

$$- 20 \quad - 4$$

$$20 \quad 3$$



Children move on to numbers where ones, tens, hundreds may need to be exchanged. When ready apply this to the decomposition method.

$$\begin{array}{r} 4 \quad 1 \\ \cancel{5} \quad 3 \quad 6 \\ - 4 \quad 8 \quad 5 \\ \hline 5 \quad 1 \end{array}$$

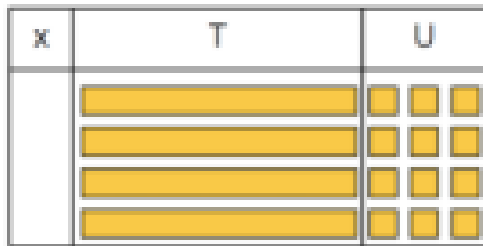
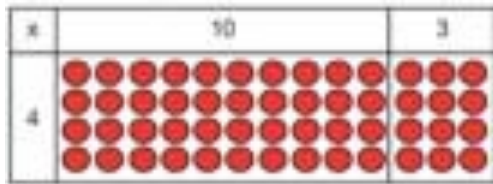
Vocabulary

take, take away, less, minus, subtract, leaves, count back/up, difference, how many left, how much less, fewer,

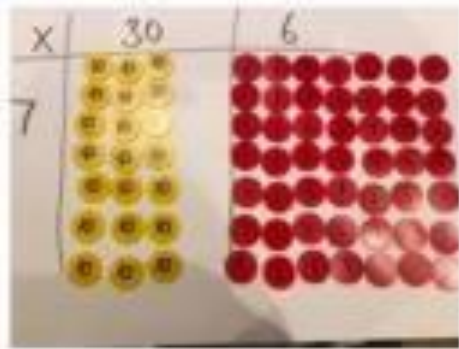
	partition, least, distance between, exchanging, ones, tens, hundreds, decomposition method
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Multiplication – Year 3		
Concrete	Pictorial	Abstract

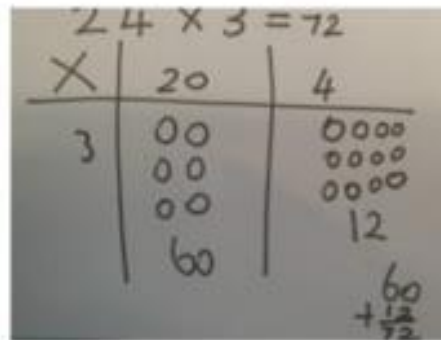
Use specific maths resources such as base 10, numicon and PV counters to link arrays with the grid method.



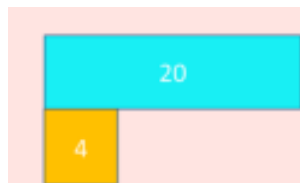
Use of PV counters to show how we find groups of a number.



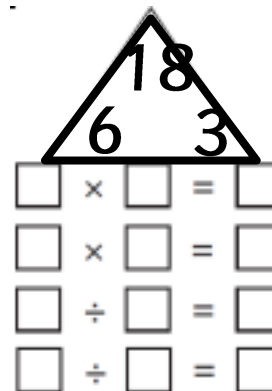
Visual representations of number sentences using arrays to show the multiples within a grid method.



Use bar models are used to support multiples knowledge and explore missing numbers.



Children exposed to commutative problems where they use their multiplication and division knowledge.



Children recall multiplication facts without the use of multiples known.

$$6 \times 6 = \square$$

$$3 \times 11 =$$



$$\square \times 4 = 36$$

Children record a number sentence with the multiplication compact method with clear addition alongside.

$$\begin{array}{r} 18 \\ \times 3 \\ \hline 24 \quad (8 \times 3) \\ + 30 \quad (10 \times 3) \\ \hline 54 \end{array}$$

Vocabulary

Groups of, lots of, times, altogether, multiply, amounts of, set of, double, repeated addition, arrays, commutative, product, inverse, grid method

Division – Year 3

Concrete

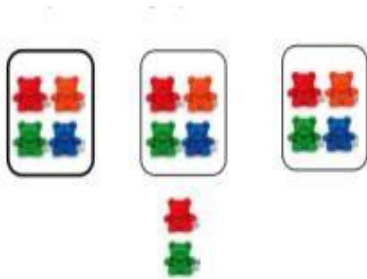
Use specific maths resources such as cubes, objects, counters and numicon to aid with grouping.

24 divided into groups of 6



Link division to multiplication by creating arrays. Use PV counters for larger amounts.

$$96 \div 3 = 32$$



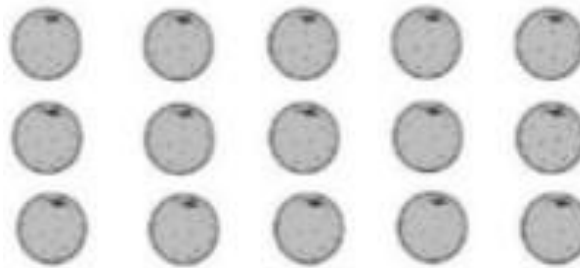
Divide amounts looking to see what is left over when grouped together.

Pictorial

Visual representations of number sentences using dividing the arrays into groups to make multiplication and division sentences.

$$15 \div 5 = 3 \quad 5 \times 3 = 15$$

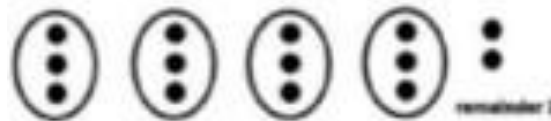
$$15 \div 3 = 5 \quad 3 \times 5 = 15$$



Use bar modelling to aid solving division problems



Children begin to see remainders



Abstract

Children find the inverse of division sentences by linking multiplication sentences known.

$$28 \div 7 = \square$$

$$4 \times 7 = \square$$

$$7 \times 4 = \square$$

Children investigate ways to divide an amount equally.

$$96 \div 8$$

$$96 \div 4$$

$$96 \div 3$$

$$96 \div 6$$

Children solve division problems that require them to place an 'r' to represent the word remainder.

$$29 \div 8 = 3 \text{ r } 5$$

Vocabulary	Share, share equally, one each. Groups of, lots of, divide, half, bus stop, left, left over, grouping, remainder
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Year 4

Addition – Year 4

Concrete

Use specific maths resources such as base10, numicon, PV counters to exchange ten ones for a ten and ten tens for a hundred and ten hundreds for a thousand.

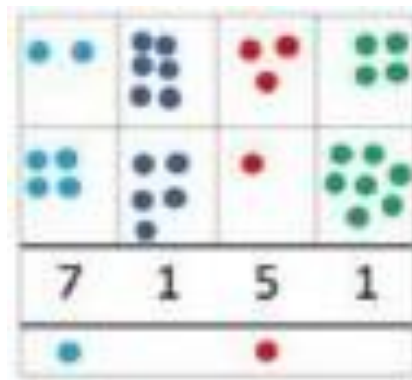


Introduce decimal place using PV counters and how these are exchanged.

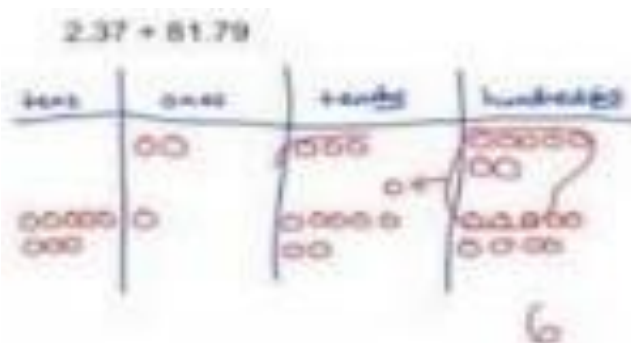


Pictorial

Visual representations of number sentences so children are able add amounts together.



Children draw PV counters within the columns to further support their understanding



Abstract

Children record a number sentence with the correct formal column method and calculate the addition problem with bridging.

$$\begin{array}{r} 3517 \\ + 396 \\ \hline 3913 \\ \text{1 1} \end{array}$$

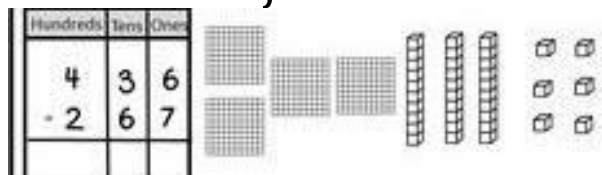
Children move on by being introduced to decimal places. Money and other measurements (cm/m or g/kg) can be used here to support.

$$\begin{array}{r} £23.59 \\ + £7.55 \\ \hline £31.14 \\ \text{1 1 1} \end{array}$$

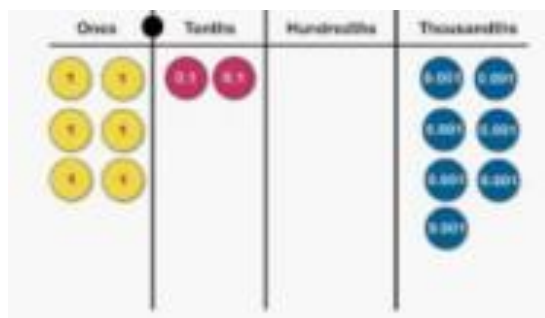
Vocabulary	add, more, total, plus, make, altogether, equals, count on, double, most, hundreds, ones, tens, partition, sum of increase, column method, inverse, bridging
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Subtraction – Year 4		
Concrete	Pictorial	Abstract

Use specific maths resources such as base10, numicon, PV counters to exchange ten ones for a ten and ten tens for a hundred and ten hundreds for a thousand.

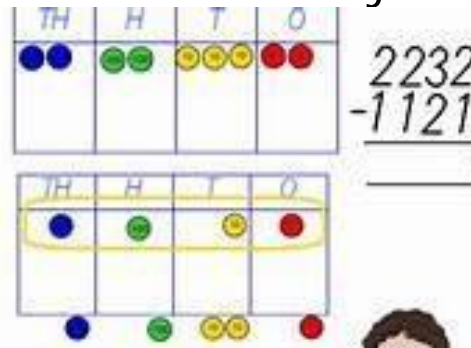


Children encouraged to use PV counters to represent numbers and take counters away to subtract.

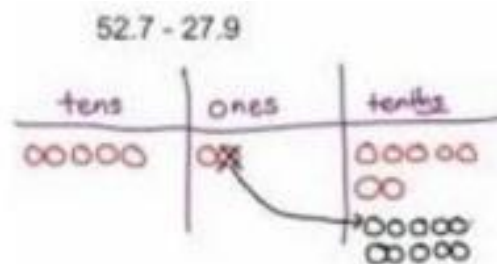


Introduce decimal place using PV counters and how these are exchanged.

Visual representations of number sentences so children are able subtract amounts together.



Children draw PV counters within the columns to further support their understanding of exchanging.



Children record a number sentence with the decomposition method and calculate the subtraction problem with exchanging.

$$\begin{array}{r} 6 \quad 1 \\ \cancel{7} \quad 2 \quad 8 \\ - \quad 5 \quad 8 \quad 2 \\ \hline 1 \quad 4 \quad 6 \end{array}$$

Children move on by being introduced to decimal places. Money and other measurements (cm/m or g/kg) can be used here to support.

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

Vocabulary

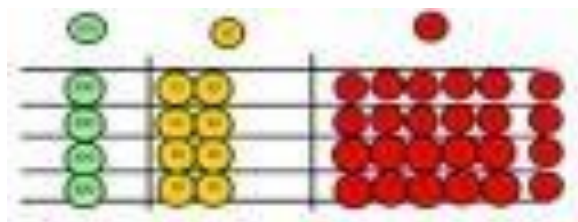
take, take away, less, minus, subtract, leaves, count back/up, difference, how many left, how much less, fewer, partition, least, distance between, exchanging, ones, tens, hundreds, thousands, decomposition method

Multiplication – Year 4

Concrete

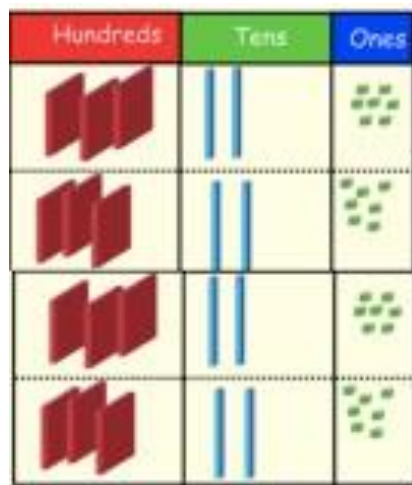
Use specific maths resources such as base 10, numicon and PV counters to show how we find groups of a number.

$$126 \times 4$$



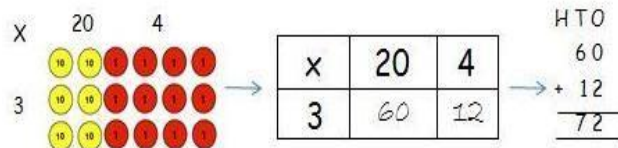
Children look at column multiplication where no regrouping takes place.

$$327 \times 4$$

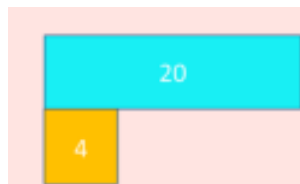


Pictorial

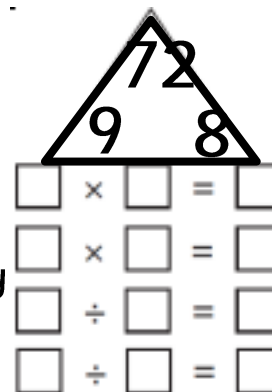
Visual representations of number sentences using drawn circles of amounts to show the groups.



Use grid method to place answers in and use the column method to find the final total.



Children continue to solve commutative problems where they use the inverse operation. Apply the bar to support visually for some children.



Abstract

Children recall the remaining multiplication facts without the use of multiples.

$$6 \times 9 = \square$$

$$8 \times 12 =$$



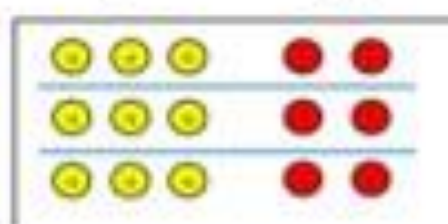
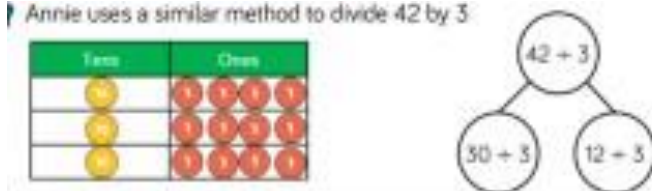
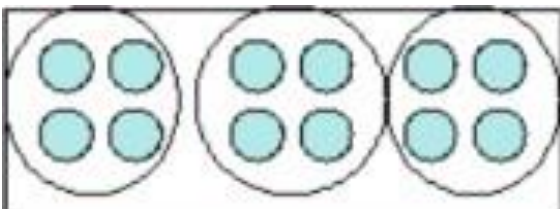
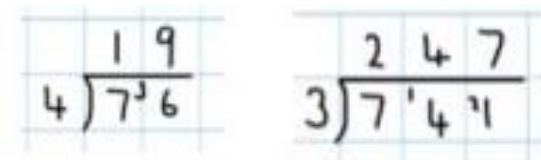
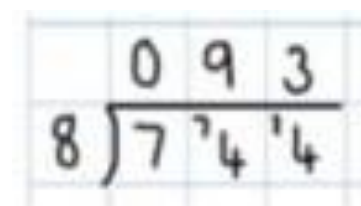
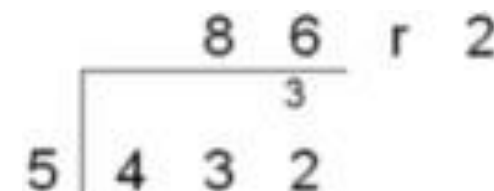
$$\square \times 7 = 49$$

Children record a number sentence with the multiplication grid method with clear addition alongside the grid.

$$\begin{array}{r} 135 \\ \times 5 \\ \hline 250 \quad (5 \times 5) \\ 1500 \quad (30 \times 5) \\ + 5000 \quad (100 \times 5) \end{array}$$

The long multiplication is modelled
alongside.

6 7 5

Vocabulary	Groups of, lots of, times, altogether, multiply, amounts of, set of, double, repeated addition, arrays, commutative, product, inverse, grid method		
Division – Year 4			
Concrete	Pictorial	Abstract	
<p>Use specific maths resources such as PV counters and numicon to aid with grouping larger amounts.</p> <p>96 ÷ 3 Tens Units</p> <p> 3 2</p>  <p>Link division to multiplication by creating arrays. Use PV counters for larger amounts.</p> <p>Divide larger amounts looking to see what is left. Children use the part part whole to support with this.</p> <p>Annie uses a similar method to divide 42 by 3</p> 	<p>Visual representations of number sentences using dividing the arrays into groups to make multiplication and division sentences.</p> <p>36 ÷ 9 = 4 4 x 9 = 36 36 ÷ 4 = 9 9 x 4 = 36</p> <p>Continue to use bar modelling or circles to aid solving division problems, including the understanding of remainders.</p> 	<p>Children record a number sentence with the short division method with strong multiplication skills on display. Begin with dividing equally with no remainders.</p>  <p>Children should be aware that a '0' is used to keep place value, if the number is not divisible.</p>  <p>Move onto division problems that involve remainders</p> 	

Vocabulary	Share, share equally, groups of, lots of, divide, half, bus stop, left, left over, grouping, remainder, factors
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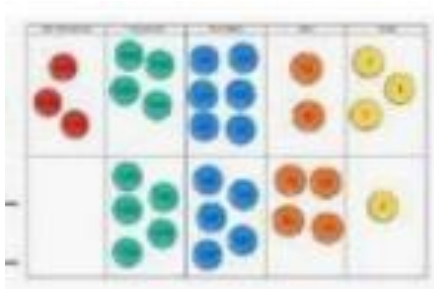
Year 5 &

6

Addition – Year 5 & 6

Concrete

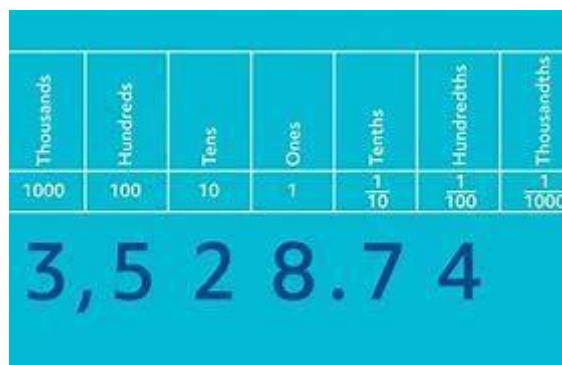
Use specific maths resources such as base10, numicon, PV counters to exchange ten hundreds for a thousand and ten thousands for ten thousand.



Continue to build on decimal place using PV counters and how these are exchanged.

Pictorial

Visual representations of number sentences so children are able add amounts together.



Children draw PV counters within the columns to further support their understanding

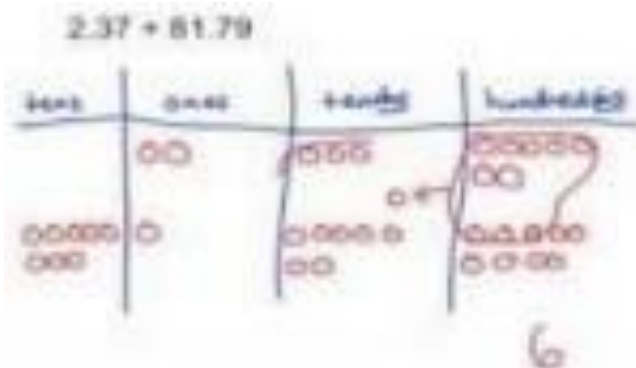
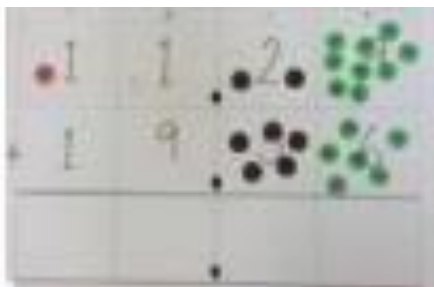
Abstract

Children record a number sentence with the correct formal column method and calculate the addition problem with bridging.

$$\begin{array}{r} 569356 \\ + \quad 4968 \\ \hline 574324 \\ \text{1 1 1 1} \end{array}$$

Children continuing using decimal places through money and other measurements (cm/m or g/kg). Introduce zero place holders.

$$£ 23.195$$

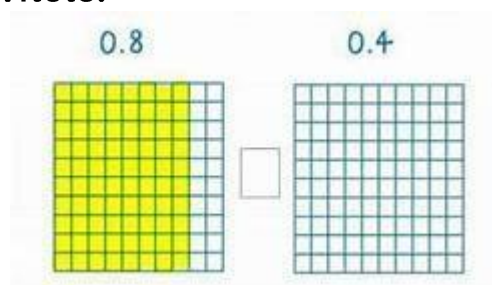


$$\begin{array}{r} + \text{£ } 42.100 \\ \text{£ } 65.295 \\ \hline \end{array}$$

Children solve problems using the inverse operation

$$3496 = \square + 147$$

Present decimal values using base 10 to understand their value to 1 whole.



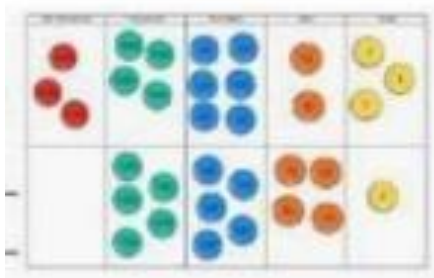
Children complete calculations with missing digits

$$\begin{array}{r} 840032 \\ + \square\square5\square \\ \hline 843985 \end{array}$$

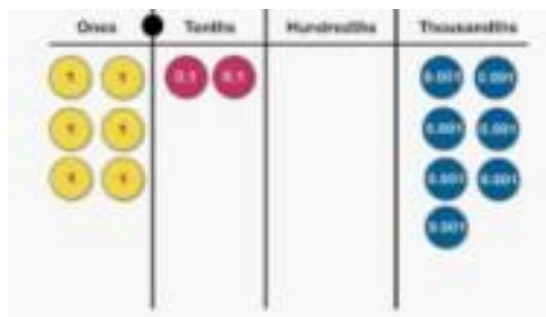
Vocabulary	add, more, total, sum, make, altogether, double, half, halve, most, thousands, tens of thousands, millions, decimal point, partition, place holder, strategy
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Subtraction – Year 5 & 6		
Concrete	Pictorial	Abstract
Use specific maths resources such as base10, numicon, PV counters to exchange ten hundreds for a thousand and ten thousands for a ten thousand.	Visual representations of number sentences so children are able subtract amounts together.	Children record a number sentence with the decomposition method and calculate the subtraction problem with exchanging. <div>5 1 8 1 6 9 6 3 9 1</div>



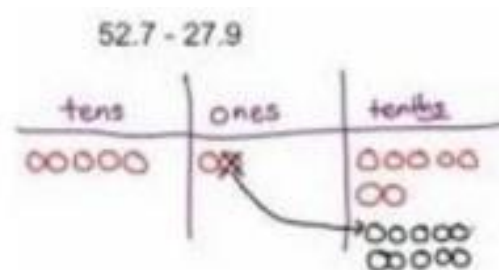
Children encouraged to use PV counters to represent numbers and take counters away to subtract.



Continue with decimal place using PV counters and how these are exchanged.

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
3,528.74						

Children draw PV counters within the columns to further support their understanding of exchanging.



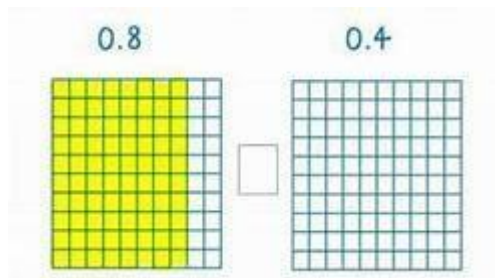
$$\begin{array}{r} - \quad 4 \ 5 \ 6 \ 7 \\ 6 \ 9 \ 1 \ 8 \ 2 \ 4 \end{array}$$

Children continue to apply decimal places to problems with money and other measurements (cm/m or g/kg). Introduce zero place holders.

$$\begin{array}{r} \text{21811181} \\ \pounds 3 \ 5 \ 9 \ 2 \ . \ 9 \ 2 \\ + \pounds 6 \ 0 \ 4 \ . \ 9 \ 8 \\ \hline \pounds 2 \ 9 \ 8 \ 7 \ . \ 9 \ 4 \end{array}$$

Children solve problems using the inverse operation

Present decimal values using base 10 to understand their value to 1 whole and how we can exchange.



$$13496 = \square - 2097$$

Children complete calculations with missing digits

$$\begin{array}{r} 840032 \\ - \square\square7\square\square3 \\ \hline \square20\square34\square \end{array}$$

Vocabulary

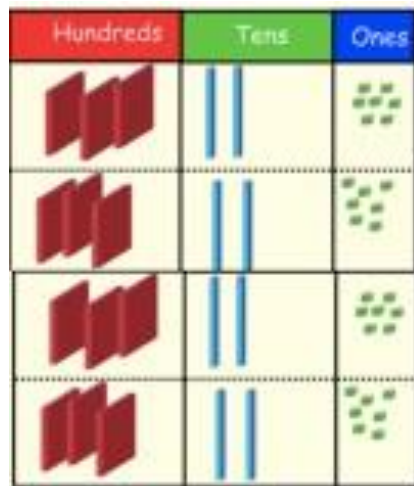
take away, less, minus, subtract, count back/on, difference, how many left, how much less, fewer, partition, least, distance between, exchanging, thousands, ten thousands, millions, decomposition method, strategy, place holder

Multiplication – Year 5 & 6

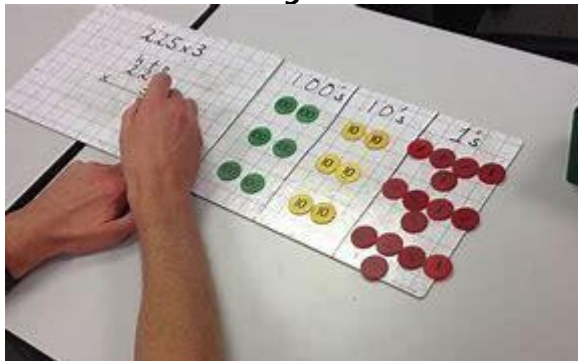
Concrete

Children look at column multiplication where regrouping takes place.

$$327 \times 4 = 642$$



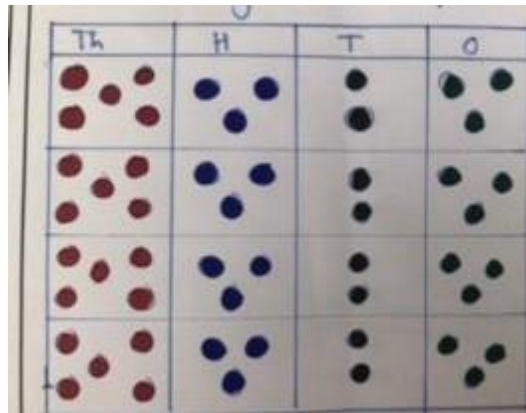
The long multiplication is modelled alongside.



Pictorial

Visual representations of number sentences using drawn circles of amounts to show the groups.

$$5323 \times 4 = 21,292$$



Move away from the grid method taught in Year 3 and 4 and use the compact method to find the final total amounts.

Abstract

Children record a number sentence with the multiplication compact method with clear addition alongside, if required.

$$\begin{array}{r} 3413 \\ \times \quad 8 \\ \hline 27304 \\ \hline 312 \end{array}$$

Multiply 4 digits by 1 or 2

$$\begin{array}{r} 3413 \\ \times \quad 24 \\ \hline 13652 \text{ (x4)} \\ \hline 68260 \text{ (x20)} \\ \hline 81912 \\ \hline 1 \quad 1 \end{array}$$

Children begin multiplying decimals insuring decimal points are placed in before multiplying.

$$\begin{array}{r}
 25.23 \\
 \times \quad 9 \\
 \hline
 227.07 \\
 \hline
 422
 \end{array}$$

Children taught to remove decimal point but count 2 decimal points. Multiply as a whole number then add the decimal point back in.

$$\begin{array}{l}
 25.3 \times 4.5 \\
 253 \times 45
 \end{array}$$

Children complete calculations with missing numbers.

$$\begin{array}{r}
 \square \square \square \square \\
 \times \quad 39 \\
 \hline
 78660
 \end{array}$$

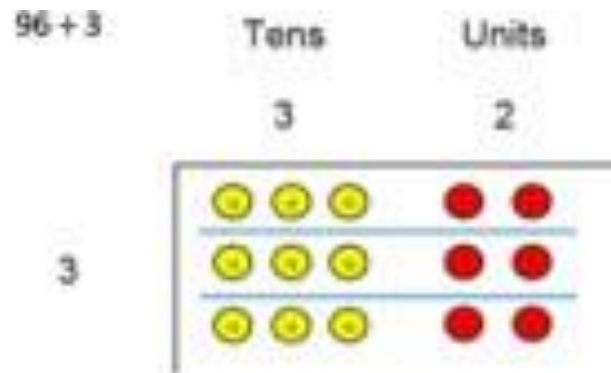
Vocabulary

Groups of, lots of, times, altogether, multiply, amounts of, set of, double, commutative, product, inverse, factors, prime numbers, squared, cubed, derive, pairs, place holder, strategy

Division – Year 5 & 6

Concrete

Use specific maths resources such as PV counters aid with grouping 3-4 digit numbers.

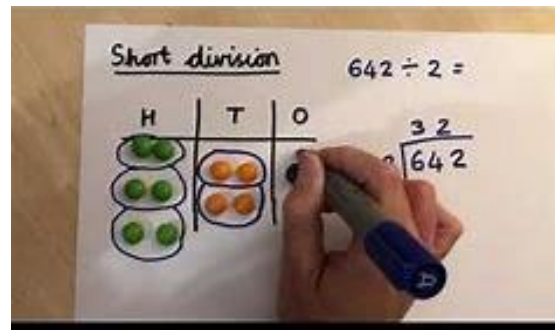


Interpret remainders appropriately for the context.

Pictorial

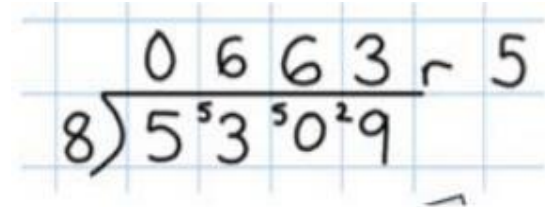
Visual representations of division through drawn diagrams with dots or circles to divide into equal groups.

Continue to use multiples knowledge instead, including the understanding of remainders.

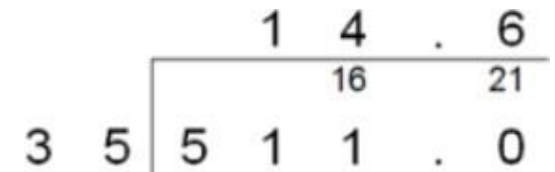


Abstract

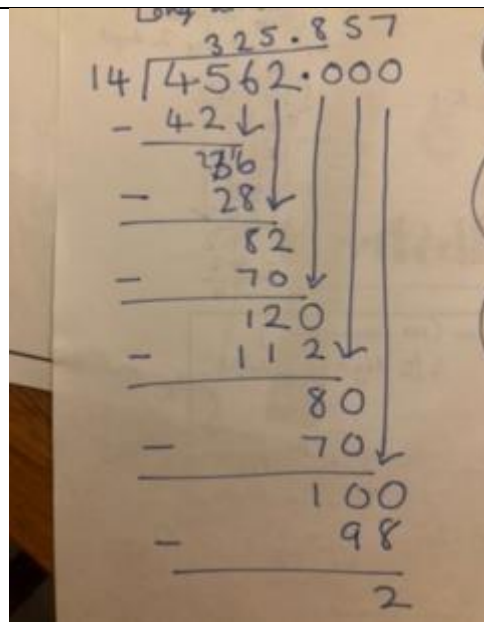
Children record a number sentence with the short division method with strong multiplication skills on display. Begin with dividing equally with and without remainders.



Children move into decimal places to divide the totals accurately.



Children exposed to long division to solve 4/5 digit numbers by 2 digit.

			 <p>Handwritten long division of 4562.000 by 14. The quotient is 325.857 with a remainder of 2. The steps shown are: 14 into 45 is 3 (42), remainder 3; 36, 14 into 36 is 2 (28), remainder 8; 82, 14 into 82 is 5 (70), remainder 12; 120, 14 into 120 is 8 (112), remainder 8; 80, 14 into 80 is 5 (70), remainder 10; 100, 14 into 100 is 7 (98), remainder 2.</p>
Vocabulary	Share, share equally, groups of, lots of, divide, half, bus stop, left, left over, grouping, remainder, factors, , multiples, product, inverse, short division, long division, strategy		