# Maths

## Hildenborough CE Primary School Calculation policy

September 2013

#### Mental calculation methods

Decention	Voor 1	Voor 2
Reception	Fedr 1	yeur z
<ul> <li>Begin to relate addition to combining two groups of objects</li> <li>Make a record in pictures</li> </ul>	<u>+ = signs and missing numbers</u> Children need to understand the concept of equality before using the '=' sign. Calculations should be written either side of the equality sign so that the sign is not just interpreted	<u>+ = signs and missing numbers</u> Continue using a range of equations as in Year 1 but with appropriate, larger numbers. Extend to
<ul> <li>words or symbols of addition</li> <li>activities already carried out</li> <li>Construct number sentences to go with practical activities</li> </ul>	as 'the answer'. 2 = 1+ 1 2 + 3 = 4 + 1	$14 + 5 = 10 + \square$ and $32 + \square + \square = 100  35 = 1 + \square + 5$
<ul> <li>Relate addition to counting on</li> <li>Use of games and songs to develop vocabulary</li> </ul>	3 = 3 2 + 2 + 2 = 4 + 2	<u>Partition into tens and ones and recombine</u> 23 + 12 =
	Missing numbers need to be placed in all possible places. $3 + 4 = 0$ $3 + 0 = 7$ $7 = 0 + 4$ $+ 4 = 7$ $7 = 3 + 0$ $+ \nabla = 7$ $7 = 0 + \nabla$	2 3 + 1 2 20 3 10 2 + +
	Number lines (numbered) 7+4 	30 + 5 = 35 Use number line to add tens and units. $410 + 2$ $33 - 35$ (constructing and using own number line) Add 9 or 11 by adding 10 and adjusting by 1 $35 + 9 = 44 + 10$ $35 - 44 + 10$

Addition

Addition		
Year 3	Year 4	
<u>+ = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate, larger numbers.	<u>+ = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.	
Partition into tens and ones and recombine. • Partition both numbers and recombine. 36 + 53 = 30 + 50 6+ 3 = 80 + 9 - 90	Partition into tens and ones and recombine. Partition both numbers and recombine. 36 + 53 = 30 + 50 6+ 3 = 80 + 9 - 90	
= 89 <u>Constructing own number line</u> +30 +6	= 89 <u>Constructing own number line with appropriate numbers.</u> +30 +7	
53 83 89	Add the nearest multiple of 10, then adjust Continue as in Year 2 and 3 but with appropriate numbers e.g. 63 + 29 is the same as 63 + 30 - 1	
Add a near multiple of 10 to a two-digit number Secure mental methods by using a number line to model the method. Continue as in Year 2 but with appropriate numbers e.g. 35 + 19 is the same as 35 + 20 - 1.	Written methods Straight up to carrying method 3 and 3 whole numbers. 345 +126 471 1	

Addition		
Year 5	Year 6	
<u>+ = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate	Mental partitioning	
numbers.	Partition into tens and ones and then recombine OR Partition second number, add hundreds then tens then ones.	
Mental partitioning- Continue years 5 and 6	Mentalling adding and subtracting multiple of 110 or 100 and then adjust	
Add or subtract the nearest multiple of 10 or 100, then adjust	Mentaning adding and subtracting maniple of 1,10 of 100 and mentalgust.	
Continue as in Year 2, 3 and 4 but with appropriate numbers e.a. 458 + 79 = is the same as 458 + 80 - 1	Eg. 245+ 119= 245+ (120-1)	
<u>Written methods</u> Extend to numbers with at least four digits	<u>Using more challenging facts-</u> Eg 11+ 23= 34 so 1.1 + 2.3 = 3.4	
3587 + 675 = 4262 $3587$ $+ 675$ $- 4262$ $- 111$		
Revert to expanded methods if the children experience any difficulty. Extend to up to two places of decimals (same number of decimals places) and adding several numbers (with different numbers of digits). 72.8 <u>+54.6</u> <u>127.4</u> 1 1		

Reception	Year 1	Year 2
Begin to relate subtraction to "taking away"	Pictures/Marks	- = signs and missing numbers
• Make a record in pictures, words or symbols	Sam spent 4p. What was his change from 10p?	Continue using a range of calculations as in Year 1 but
of subtraction activities already carried out		with appropriate numbers.
<ul> <li>Use of songs and games to develop</li> </ul>		Extend to 14 + 5 = 20 - 🗆
vocabulary	- = signs and missing numbers	
<ul> <li>Construct number sentences to go with</li> </ul>	7 - 3 = 🗆 🗆 = 7 - 3	
practical activities	7 - 🗆 = 4 4 = 🗆 - 3	Find a difference by counting up
Relate subtraction to taking away and	□ - 3 = 4 4 = 7 - □	42 - 39 = 3
counting how many objects are left	$\Box - \nabla = 4 \qquad \qquad 4 = \Box - \nabla$	+ 1 + 2
	Number lines (numbered) 11 - 7 (Counting back)	39 40 42
	The difference between 7 and 11 (Counting up)	

Subtraction		
Year 3	Year 4	
<ul> <li><u>- = signs and missing numbers</u></li> <li>Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.</li> </ul>	<u>- = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.	
<u>Find a small difference by counting up</u> Continue as in Year 2 but with appropriate numbers e.g. 102 - 97 = 5	e.g. 5003 - 4996 = 7 This can be modelled on an empty number line (see complementary addition below). Children should be encouraged to use known number facts to reduce the number of steps.	
<u>Subtract 'near multiple of 10' to or from a two-digit number</u> numbers e.g. 78 - 49 is the same as 78 - 50 + 1	<u>Subtract the nearest multiple of 10, then adjust.</u> Continue as in Year 3 but with appropriate numbers. <u>Written methods</u>	
<u>Use known number facts and place value to subtract</u> Continue as in Year 2 but with appropriate numbers e.g.	Bridging 754 - 86 = 668 +14 +600 +54	
<u>Written methods</u> Bridging on a number line 84 - 56 = 28	86 100 700 754	
+4 +20 +4 56 60 80 84	Subtraction with exchanging written method. $456$ $4\sqrt{45}$ $-123$ $-335$ $333$ $-19$	

Subtraction		
Year 5	Year 6	
<u>- = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate	Mental partitioning	
numbers.	Partition into tens and ones and then recombine OR	
Find a difference by counting up	Partition second number, add hundreds then tens then ones.	
e.g. 8006 - 2993 = 5013		
This can be modelled on an empty number line.	Mentalling adding and subtracting multiple of1,10 or 100 and then adjust.	
<u>Subtract the nearest multiple of 10 or 100, then adjust.</u> Continue as in Years 3 and 4 but with appropriate numbers.	Eg. 245-119= 245- (120+1)	
	Using more challenging facts-	
Use known number facts and place value to subtract	Eg 23-11= 12 so 2.3- 1.1= 1.2	
6.1 - 2.4 = 3.7		
3.7 4.1 6.1		
-0.4 -2		
Subtraction with exchanging written method for decimals.		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
33.3 1 1.9		

Reception	Year 1	Year 2
Real life contexts and use of practical equipment to count in repeated groups of the same size: • Count in twos • Count in fives • Count in tens	Pictures / marks There are 3 sweets in one bag. How many sweets are there in 5 bags?	Arrays and repeated addition $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $4 \times 2 \text{ or } 4 + 4$ $2 \times 4 \text{ or } 2 + 2 + 2 + 2$ $4 \times 2 \text{ or } 4 + 4$ $4 \times 4 \text{ or } 4 + 4$ $4 \times 4  or $

**Multiplication** 

Multiplication		
	Year 3	Year 4
x = signs and 1 7 x 2 = □ 7 x □ = 14	<u>missing numbers</u> □ = 2 × 7 14 = □ × 7	<u>x = signs and missing numbers</u> Continue using a range of equations as in Year 2 but with appropriate numbers
□ x 2 = 14 □ x ∇ = 14	14 = 2 × □ 14 = □ × ∇	Continue to Doutition
Number lines 6 x 3		35 x 2 = 70
		<b>30 x 2= 60</b> 5 x 2= 10 =70
0 <u>Arrays and rej</u> Continue to und arrays (as in Ye	6 12 18 p <u>eated addition</u> lerstand multiplication as repeated addition and continue to use car 2).	Use the grid method of multiplication (as below) <u>Written methods</u>
<u>Doubling multip</u> 35 x 2 = 70 <b>30 x 2= 60</b> 5 x 2= 10 =70 Use known fact	ples of 5 up to 50	Grid method 23 x 7 is approximately 20 x 10 = 200 x 20 3 7 140 21 = 161
Use the same	method as above (partitioning), e.g.	
32 x 3 = 96		

Multiplication		
Year 5	Year 6	
<u>x = signs and missing numbers</u>	Mental partitioning	
Continue using a range of equations as in Year 2 but with appropriate numbers		
or	Eg 6 x 37= (6 x 30= 180) + (6 x 7= 42)	
Use the grid method of multiplication (as below)	=222	
	Using times table facts	
or	<u></u>	
4/	Eg 2 x 6= 12 so 20 x 60 = 1200 or 0.2 x 6= 1.2	
42		
240	<u>Use place value facts</u>	
282	$F_{0} = 10 \times 6.5 = 65 \times 100 \times 0.98 = 98 \text{ sta}$	
	Ly 10 x 0.3- 03, 100 x 0.90- 90 erc	
Written method		
Maving anto 2 digit x 2 digit numbers etc		
$72 \times 38$ is approximately $70 \times 40 = 2800$		
72		
<u>x 38</u>		
2100		
+ 560		
+ 60		
+ 16		
=2736		
A suite at formula state de constate l'estim for de traite		
Moving to formal methods of multiplication for decimals.		
High level 4+		
426		
<u>X 17</u>		
2982		

4260	
7 242	
1 1	

#### Division

Reception	Year 1	Year 2
Real life contexts and use of practical equipment		÷ = signs and missing numbers
to share	<u>Sharing</u>	6 ÷ 2 = 🗆 🗆 = 6 ÷ 2
	Requires secure counting skills	6 ÷ □ = 3 3 = 6 ÷ □
	-see counting and understanding number strand	$\Box \div 2 = 3 \qquad \qquad 3 = \Box \div 2$
	Develops importance of one-to-one correspondence	$\Box \div \nabla = 3 \qquad \qquad 3 = \Box \div \nabla$
	See appendix for additional information on x and ÷	
	and aspects of number	6 ÷ 2 can be modelled as:
		There are 6 strawberries.
		How many people can have 2 each? How many 2s
		make 6?
	Sharing - 6 sweets are shared between 2 people. How many do they have each?	6 ÷ 2 can be modelled as:
	Practical activities involving sharing, distributing	0 1 2 3 4 5 6
	plates, into cups, hoops etc.	Practical grouping e.g. in PE
	Grouping	12 children get into teams of 4 to play a game. How
	Sorting objects into 2s / 3s/ 4s etc	many teams are there?
	How many pairs of socks are there?	
	There are 12 species bullet. Plant 3 in each pat. How	
	many nots are there?	
	To has 12   eao wheels How many cars can she make?	
	The has the boys wheels. How many cars can she makes	

Division			
Year 3	Year 4		
<u>÷ = signs and missing numbers</u> Continue using a range of equations as in Year 2 but with appropriate numbers.	<ul> <li>÷ = signs and missing numbers</li> <li>Continue using a range of equations as in Year 2 but with appropriate numbers.</li> <li>Sharing and grouping</li> <li>30 ÷ 6 can be modelled as:</li> </ul>		
Understand division as sharing and grouping	grouping - groups of 6 placed on no. line and the number of groups counted e.g.		
18 ÷ 3 can be modelled as: Sharing – 18 shared between 3 (see Year 1 diagram)	+6 +6 +6 +6 +6 $-6$ +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6		
OR Grouping - How many 3's make 18? $0  3  6  9  12  15  18$ Remainders $14 + 2 = 5 - 4$	sharing - sharing among 6, the number given to each person Remainders $41 \div 4 = 10 \text{ r1}$ +40 +1 10  groups $41 = (10 \times 4) + 1$ Written methods		
Sharing - 16 shared between 3, how many left over? Grouping - How many 3's make 16, how many left over? e.g.	Repeated subtraction         eg 15 - 5 =           15         -5           10         -5           -5         -5           -5         -5		
0 3 6 9 12 15 16	0		

Division			
Year 5	Year 6		
<ul> <li>÷ = signs and missing numbers Continue using a range of equations as in Year 2 but with appropriate numbers.</li> <li>Sharing and grouping Continue to understand division as both sharing and grouping (repeated subtraction).</li> </ul>	Using the inverse of times table facts Eg 1200 ÷ 4. I know 4 × 3= 12 so 12 ÷ 4= 3 so 1200 ÷ 4= 300 OR 1.2 ÷ 4= 0.3 Use place value facts		
<u>Written methods:</u>	Eg 6.5 ÷ 10= 0.65 OR 760 ÷ 100= 7.6		
<u>Chunking method:</u>			
$78 \div 4$			
$=4 \overline{)78} = 19 \text{ r } 2$ - 40 (10 x 4) 38			
$-36 (9 \times 4)$ 2			
Short division- only works when dividing by 1-digit numbers. $92 \div 4 = 23$ $=4$ $\begin{bmatrix} 2 & 3\\ 9 & 12 \end{bmatrix}$			

Division

Reception	Year 1	Year 2
Begin to relate addition to combining two groups of	+ = signs and missing numbers	+ = signs and missing numbers
objects	Children need to understand the concept of equality before	Continue using a range of equations as in Year 1 but with
	using the '=' sign. Calculations should be written either side	appropriate, larger numbers.
Make a record in pictures	of the equality sign so that the sign is not just interpreted	Extend to
words or symbols of addition	as 'the answer'.	14 + 5 = 10 + 🗆
activities already carried out		and
• Construct number sentences to go with practical	2 = 1+ 1	32 + 🗆 + 🗆 = 100 35 = 1 + 🗆 + 5
activities	2 + 3 = 4 + 1	
<ul> <li>Relate addition to counting on</li> </ul>	3 = 3	Partition into tens and ones and recombine
<ul> <li>Use of games and songs to develop vocabulary</li> </ul>	2 + 2 + 2 = 4 + 2	23 + 12 =
	Missing numbers need to be placed in all possible places.	2 3 + 1 2
	3 + 4 = 🗆 🗆 = 3 + 4	
	3 + 🗆 = 7 7 = 🗆 + 4	20 3 10 2
	□ + 4 = 7 7 = 3 + □	+ +
	$\Box + \nabla = 7 \qquad \qquad 7 = \Box + \nabla$	
		30 + 5 = 35
	Number lines (numbered)	
	7+4	Use number line to add tens and units.
		+10 +2
	Recorded by - drawing jumps on prepared lines	
	- constructing own number lines	23 33 35
	(Teachan madala much an linea with missing much and)	(constructing and using own number line)
	(reacher models number lines with missing numbers)	Add 9 or 11 by adding 10 and adjusting by 1
	(Teachan models inttings appropriate for lancer numbers)	35 + 9 = 44 +10
		35 44~45

Addition		
Year 4		
<ul> <li><u>+ = signs and missing numbers</u></li> <li>Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.</li> </ul>		
Partition into tens and ones and recombine. Partition both numbers and recombine. 36 + 53 = 30 + 50 6+ 3 = 80 + 9 = 89		
Constructing own number line with appropriate numbers.		
Written methods Straight up to carrying method 3 and 3 whole numbers. 345 +126 471 1		

### Written calculation methods

Addition		
Year 5	Year 6	
<ul> <li><u>+ = signs and missing numbers</u></li> <li>Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.</li> </ul>	<u>+ = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.	
<u>Mental partitioning-</u> Continue years 5 and 6	Add the nearest multiple of 10 100 or 1000 then adjust	
<u>Add or subtract the nearest multiple of 10 or 100, then adjust</u> Continue as in Year 2, 3 and 4 but with appropriate numbers e.g. 458 + 79 = is the same as 458 + 80 - 1	Continue as in Year 2, 3, 4 and 5 but with appropriate numbers including extending to adding 0.9, 1.9, 2.9 etc	
<u>Written methods</u> Extend to numbers with at least four digits 3587 + 675 = 4262	<u>Written methods</u> Extend to numbers with any number of digits and decimals with 1, 2 and/or 3 decimal places. 13.86 + 9.481 = 23.341	
3587 + <u>675</u> <u>4262</u> 111	$ \begin{array}{r} 13.86 \\ + \underline{9.481} \\ \underline{23.341} \\ 1 1 1 \end{array} $	
Revert to expanded methods if the children experience any difficulty. Extend to up to two places of decimals (same number of decimals places) and adding several numbers (with different numbers of digits). 72.8 +54.6 127.4 1 1		

Subtraction	
Year 1	Year 2
Year 1Pictures/MarksSam spent 4p. What was his change from 10p? $\bigcirc$ <td>Year 2         - = signs and missing numbers         Continue using a range of calculations as in Year 1 but         with appropriate numbers.         Extend to 14 + 5 = 20 - □         Find a difference by counting up         42 - 39 = 3         + 1         + 2</td>	Year 2         - = signs and missing numbers         Continue using a range of calculations as in Year 1 but         with appropriate numbers.         Extend to 14 + 5 = 20 - □         Find a difference by counting up         42 - 39 = 3         + 1         + 2
Number lines (numbered) 11 - 7 (Counting back) The difference between 7 and 11 (Counting up)	
	Subtraction         Year 1         Pictures/Marks         Sam spent 4p. What was his change from 10p? $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $ =$ signs and missing numbers $?$ $\bigcirc$ $7 - 3 = \bigcirc$ $=$ $? - 3$ $?$ $=$ $? - 3$ $7 - 3 = \bigcirc$ $=$ $? - 3$ $? - 2$ $4$ $=$ $? - 3$ $7 - 3 = 4$ $4 = \bigcirc$ $? - 3$ $? - 2$ $4$ $=$ $? - 7$ $- \nabla = 4$ $4 = \bigcirc - \nabla$ Number lines (numbered) $11 - 7$ (Counting back)         The difference between 7 and 11       (Counting up) $($ $($ $($

Subtraction		
Year 3	Year 4	
<u>- = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.	<u>- = signs and missing numbers</u> Continue using a range of equations as in Year 1 and 2 but with appropriate numbers.	
<u>Find a small difference by counting up</u> Continue as in Year 2 but with appropriate numbers e.g. 102 - 97 = 5	e.g. 5003 - 4996 = 7 This can be modelled on an empty number line (see complementary addition below). Children should be encouraged to use known number facts to reduce the number of steps.	
<u>Subtract 'near multiple of 10' to or from a two-digit number</u> numbers e.g. 78 - 49 is the same as 78 - 50 + 1	<u>Subtract the nearest multiple of 10, then adjust.</u> Continue as in Year 3 but with appropriate numbers. <u>Written methods</u>	
<u>Use known number facts and place value to subtract</u> Continue as in Year 2 but with appropriate numbers e.g.	Bridging 754 - 86 = 668 +14 $+600$ $+54$	
<u>Written methods</u> Bridging on a number line 84 - 56 = 28	86 100 700 754	
+4 56 60 +4 80 84	Subtraction with exchanging written method. $456$ $4 \ 45 \ 14$ $-123$ $-335$ $333$ $-119$	

Subtraction		
Year 5	Year 6	
- = signs and missing numbers	- = signs and missing numbers	
Continue using a range of equations as in Year 1 and 2 but with appropriate	Continue using a range of equations as in Year 1 and 2 but with appropriate	
numbers.	numbers.	
Find a difference by counting up		
e.g. 8006 - 2993 = 5013	Find a difference by counting up	
This can be modelled on an empty number line.	e.g. 8000 - 2785 = 5215	
	To make this method more efficient, the number of steps should be reduced to	
Subtract the nearest multiple of 10 or 100, then adjust.	a minimum through children knowing:	
Continue as in Years 3 and 4 but with appropriate numbers.	<ul> <li>Complements to 1, involving decimals to two decimal places (0.16 + 0.84)</li> <li>Complements to 10, 100 and 100</li> </ul>	
Use known number facts and place value to subtract	•	
6.1 - 2.4 = 3.7	Subtract the nearest multiple of 10, 100 or 1000,	
3.7 4.1 6.1	<u>then adjust</u>	
	Continue as in Year 3, 4 and 5 but with appropriate numbers.	
	Use known number facts and place value to subtract	
-0.4 -2		
Subtraction with exchanging written method for decimals.	Vertical subtraction with decimals but with appropriate numbers and different place value decimals eg 25.6- 3.45	
45.6		
-3 3 . 5		
333		
1 1.9		

Multiplication		
Reception	Year 1	Year 2
Reception         Real life contexts and use of practical equipment to count in repeated groups of the same size:         • Count in twos         • Count in fives         • Count in tens	Year 1         Pictures / marks         There are 3 sweets in one bag.         How many sweets are there in 5 bags?         Image: State of the system of	Year 2Arrays and repeated addition•••••••••••••••••••••••••••••••••••

olication
Year 4
<u>x = signs and missing numbers</u> Continue using a range of equations as in Year 2 but with appropriate numbers
Continue to Partition
35 x 2 = 70
30 x 2= 60
5 x 2= 10 =70
Use the grid method of multiplication (as below) <u>Written methods</u>
Grid method 23 x 7 is approximately 20 x 10 = 200
7 140 21 = 161

Multiplication		
Year 5	Year 6	
x = signs and missing numbers	x = signs and missing numbers	
Continue using a range of equations as in Year 2 but with appropriate numbers	Continue using a range of equations as in Year 2 but with appropriate numbers	
or		
Use the grid method of multiplication (as below)	<u>Partition mentally</u>	
	87 × 5	
or	80 × 5= 400	
47	7 x 5= 35	
x6	=435	
42	Martin and a start	
240	Written method	
282	Continued Commence E	
	Continued from year 5	
Written method	Moving onto 2 digit x 2 digit numbers etc $72 \times 38$ is approximately $70 \times 40 = 2800$	
	72 x 38 is approximately 70 x 40 - 2800	
Moving onto 2 digit x 2 digit numbers etc	72	
72 x 38 is approximately 70 x 40 = 2800	x 38	
73	2100	
12		
<del>x 38</del>	+ 500	
2100	+ 00	
+ 560	+10	
+ 60	=2/30	
+ 16		
=2736	Moving to formal methods of multiplication for decimals	
	Moving to for hid methods of hid hphcarton for decimals.	
Moving to formal methods of multiplication for decimals.	High level 4+	
High level 4+	426	
426	X 17	
¥20 ¥ 17	2982	
2982	1 4	
1 4	4260	
4260		
7 242		

- 1	1	
-	-	

Division		
Reception	Year 1	Year 2
Real life contexts and use of practical equipment		÷ = signs and missing numbers
to share	<u>Sharing</u>	6 ÷ 2 = 🗆 🗆 = 6 ÷ 2
	Requires secure counting skills	6 ÷ 🗆 = 3 3 = 6 ÷ 🗆
	-see counting and understanding number strand	$\Box \div 2 = 3 \qquad \qquad 3 = \Box \div 2$
	Develops importance of one-to-one correspondence	$\Box \div \nabla = 3 \qquad \qquad 3 = \Box \div \nabla$
	See appendix for additional information on x and ÷	
	and aspects of number	6 ÷ 2 can be modelled as:
		There are 6 strawberries.
		How many people can have 2 each? How many 2s
		make 6.2
	Charing ( awasta and abarrad batwara 2 noonla	6 ÷ 2 can be modelled as:
	Sharing - 6 sweets are shared between 2 people.	
	Flow many do they have each?	
	Practical activities involving sharing distributing	0 1 2 3 4 5 6
	cards when playing a game putting objects onto	
	plates, into cups, hoops etc.	Practical anouning e.g. in PE
	Grouping	12 children aet into teams of 4 to play a game. How
	Sorting objects into 2s / 3s/ 4s etc	many teams are there?
	How many pairs of socks are there?	
	There are 12 crocus bulbs. Plant 3 in each pot. How	
	many pots are there?	
	Jo has 12 Lego wheels. How many cars can she make?	

Division	
Year 3	Year 4
<u>÷ = signs and missing numbers</u> Continue using a range of equations as in Year 2 but with appropriate numbers.	<ul> <li>÷ = signs and missing numbers</li> <li>Continue using a range of equations as in Year 2 but with appropriate numbers.</li> <li>Sharing and grouping</li> <li>30 ÷ 6 can be modelled as:</li> </ul>
Understand division as sharing and grouping	grouping – groups of 6 placed on no. line and the number of groups counted e.g.
18 ÷ 3 can be modelled as: Sharing – 18 shared between 3 (see Year 1 diagram)	+6 $+6$ $+6$ $+6$ $+6$ $+6$ $+6$ $+6$
<i>OR</i> Grouping - How many 3's make 18? 0 3 6 9 12 15 18	sharing - sharing among 6, the number given to each person <u>Remainders</u> 41 ÷ 4 = 10 r1 +40 +1 <sup>10 groups</sup>
Remainders $16 \div 3 = 5 r1$ Sharing - 16 shared between 3, how many left over? Grouping - How many 3's make 16, how many left over? e.g. $0 \ 3 \ 6 \ 9 \ 12 \ 15 \ 16$	41 = (10 × 4) + 1 <u>Written methods</u> Repeated subtraction eg 15 - 5 = 15 -5 10 -5 5 -5 0

Division	
Year 5	Year 6
<ul> <li>÷ = signs and missing numbers</li> <li>Continue using a range of equations as in Year 2 but with appropriate numbers.</li> </ul>	$\frac{\cdot}{\cdot}$ = signs and missing numbers Continue using a range of equations as in Year 2 but with appropriate numbers.
<u>Sharing and grouping</u> Continue to understand division as both sharing and grouping (repeated subtraction). <u>Written methods:</u>	<u>Sharing and grouping</u> Continue to understand division as both sharing and grouping (repeated subtraction). <u>Remainders</u>
<u>Chunking method:</u>	Quotients expressed as fractions or decimal fractions 676 ÷ 8 = 84.5
78÷4	+640 +32 +4
$=4 \overline{\smash{\big }\begin{array}{c} 7 \ 8 = 19 \ r \ 2} \\ - 40  (10 \ x \ 4) \\ 38 \\ - 36  (9 \ x \ 4) \end{array}}$	
2	Written methods:
Short division- only works when dividing by 1-digit numbers. $92 \div 4 = 23$ $=4 \begin{bmatrix} 2 & 3 \\ 9 & 12 \end{bmatrix}$	<u>Chunking method</u> For dividing 2 digit and decimal numbers. <u>Short division method.</u> For dividing 1-digit numbers.