FOUNDATION STAGE			
ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
(	Children begin to record in the context o	f play or practical activities and problem	าร
Model vocabulary and encourage children to explain their process.	Model vocabulary and encourage children to explain their process.	Model vocabulary and encourage children to explain their process.	Model vocabulary and encourage children to explain their process.
Use real life contexts and practical equipment.	Use real life contexts and practical equipment	Use real life contexts and practical equipment	Use real life contexts and practical equipment
Begin to relate addition to combining two groups of objects	Begin to relate subtraction to 'taking away'	Begin to relate multiplication as 'repeated addition'	Begin to relate division as 'sharing equally'
<ul> <li>Use of games, songs and practical activities t o begin using vocabulary</li> <li>Construct number sentences to go with practical activities</li> <li>Solve simple word problems using their fingers</li> <li>e.g. Can find one more to ten.</li> </ul>	<ul> <li>Use of games, songs and practical activities to begin using vocabulary</li> <li>Construct number sentences to go with practical activities</li> <li>Solve simple word problems using their fingers</li> <li>e.g. Can find one less to ten.</li> <li>Take away objects and count how many are left</li> </ul>	<ul> <li>Count in repeated groups of the same size</li> <li>Count/Chant in twos, fives and tens</li> </ul>	• Share objects into equal groups e.g. fruit at break time; sweets on a child's birthday; sharing activities in all areas
<ul> <li>Make a record in pictures, words or symbols of addition activities already carried out.</li> <li>Higher Ability/ Gifted and Talented</li> </ul>	• Make a record in pictures, words or symbols of subtraction activities already carried out Higher Ability/ Gifted and Talented	• Make a record in pictures, words or symbols of groups of 2, 5 and 10.	• Make a record in pictures, words or symbols of sharing into groups of 2, 5 and 10.
Count forwards along the number line using finger.	Count backwards along a number line using finger.		

	YEAR (	ONE	
	Children need to understand the concep		
Calculations should	be written either side of the equality sig	n <u>,</u> so that the sign is not just interprete	ed as 'the answer'.
	SUBTRACTION	MULTIPLICATION	DIVISION
ADDITION + = signs and missing numbers Missing numbers need to be placed in all possible places. 3 + 4 = 0 = $3 + 43 + 0 = 7$ $7 = 0 + 40 + 4 = 7$ $7 = 3 + 01 + \nabla = 7 7 = 0 + \nablaUnderstand addition as combining twogroupsMake a record in pictures, words orsymbols of addition activities.\int Make 6\int Make 7\int Make 6\int Make 7\int Make 6\int Make 7\int Make 7\int Make 7\int Make 6\int Make 7\int Make 7\int Make 6\int Make 7\int Make 7\int$			DIVISION Understand division as sharing equally 8 apples are shared between two people. How many do they have each? 8 ÷ 2 = 4 Understand division as 'repeated subtraction' OR grouping There are ten cakes. Put two on each plate. How many plates do yo need?
The Number Line They use number lines and practical resources to support calculations and teachers demonstrate the use of the number line. Use a numbered line to count on in ones. 7+4 $\overrightarrow{0 1 2 3 4 5 6 7 8 9 10 11 12}$	The Number Line They use number lines and practical resources to support calculations and teachers demonstrate the use of the number line. Use a numbered line to count back in ones. 11 - 7 = 4 0 1 2 3 4 5 6 7 8 9 10 11 12 Use a number line to find a difference by counting on. 11 - 7 = 4 0 1 2 3 4 5 6 7 8 9 10 11 12 Use a number line to find a difference by counting on. 11 - 7 = 4	For both of the above, the activities should be practical and a record should be made in pictures, words or symbols.	10 ÷ 2 = 5 As you share emphasise that you a taking away the same number each time. For both of the above, the activit should be practical and a record should be made in pictures, words symbols.

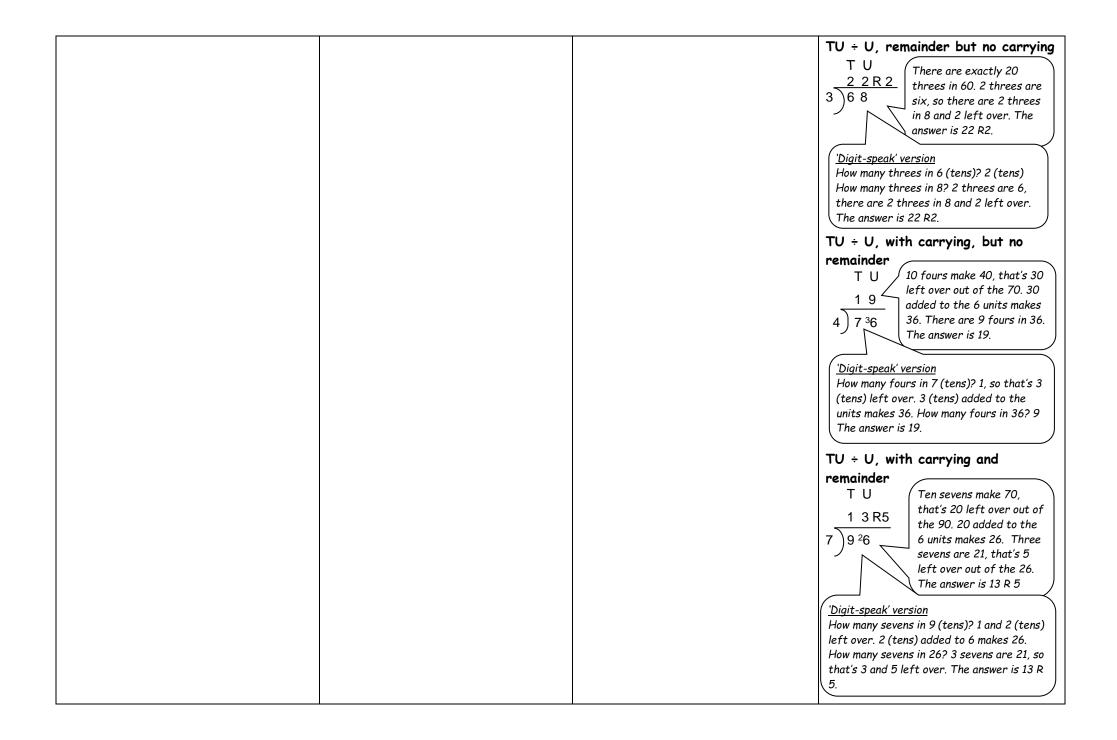
	YEAR T	WO	
	Children need to understand the concep		
Calculations should	be written either side of the equality sign	n, so that the sign is not just interprete	d as 'the answer'.
ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
+ = signs and missing numbers	<ul> <li>- = signs and missing numbers</li> </ul>	x = signs and missing numbers	÷ = signs and missing numbers
Continue using a range of equations as	Continue using a range of equations as	7 x 2 = 🗆 🗆 = 2 x 7	6 ÷ 2 = 🗆 🗆 = 6 ÷ 2
in Y1 but with appropriate numbers.	in Year 1 but with appropriate numbers.	7 x 🗆 = 14 14 = 🗆 x 7	6 ÷ □ = 3 3 = 6 ÷ □
Extend: 14 + 5 = 10 + 🗆 32 + 🗆 + 🗆 = 100	Extend: 14 + 5 = 20 - 🗆	□ × 2 = 14 14 = 2 × □	□ ÷ 2 = 3 3 = □ ÷ 2
35 = 1 + 🗆 + 5		$\Box \times \nabla = 14 \qquad \qquad 14 = \Box \times \nabla$	$\Box \div \nabla = 3 \qquad \qquad 3 = \Box \div \nabla$
TU+TU	τυ-τυ	Understand multiplication as	Understand division as sharing
Number Lines	Number Lines	'repeated addition'	equally
Counting on	Counting back	Arrays	10 sweets shared between 5 people
34 + 23	47 - 23 = 23	5+5+5	How many do they have each?
First:	First:	3 lots of 5	
+10 +10	-1 -1 -1 -10 -10	3 times 5	
+1 +1 +1		3 x 5	
34 44 54 55 56 57	24 25 26 27 37 47		10 ÷ 5 = 2
Next:	Next:	Number Line	
+10 +10	-3 -10 -10	5 5 5	Understand division as 'repeated
+3			subtraction' OR grouping
34 44 54 57	24 27 37 47	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	There are 12 sweets. Put 3 in each
	2. 2, 0, .,		bag. How many bags do you need?
Partition into ones and tens and	Counting on	Commutativity	
recombine	This is used to find the difference.	Arrays	ا ( کی )
Without bridging ten	44 - 26 = 18		
42 + 23 = 65 2 + 3 = 5	First:	$3 \times 5$	12 ÷ 3 = 4
40 + 20 = 60			See as: How many 3 make 12?
60 + 5 = 65	+1 +1 +1 +1 +1 +1 +1 +1 +1		Emphasise that you are taking away
Bridging ten			the same number each time.
35 + 27 = 62 5 + 7 = 12	36 40 54	3 x 5	Number Line
30 + 20 = 50		Number Line	Repeated subtraction to divide can
50 + 12 = 62	Next:		also be shown on a number line.
	+4 10 +4		$12 \div 3 = 4$
		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	
	26 30 40 44	3 3 3 3 3	

100 square	100 square
Add 9 or 11 by adding 10 and	Subtract 9 or 11 by subtracting 10
adjusting by 1	and adjusting by 1
35 + 9 = 44	35 -9 = 26
Using the 100 square, demonstrate:	Using the 100 square demonstrate :
35 + 10 = 45	35 - 10 = 25
45 - 1 = 44	25 + 1 = 26
Explaining/Showing that adding 10 and	Explaining/Showing that subtracting 10
subtracting 1 is the same as adding 9.	and then adding 1 is the same as
	subtracting 9.
35 + 11 = 46	
Using the 100 square, demonstrate:	35 -11 = 24
35 + 10 = 45	Using the 100 square demonstrate :
45 + 1 = 46	35 - 10 = 25
Explaining/Showing that adding 10 then	25 - 1 = 24
adding 1 is the same as adding 11.	Explaining/Showing that subtracting 10
	and then subtracting 1 is the same as
	subtracting 11.

nd missing numbers x = signs	e sign is not just interprete ULTIPLICATION	ed as 'the answer'. DIVISION
SUBTRACTION MI nd missing numbers x = signs	ULTIPLICATION	
nd missing numbers x = signs		DIVISION
	and missing numbers	÷ = signs and missing numbers
5 5 .	using a range of equations	Continue using a range of equations
	2 but with appropriate	as in Year 2 but with appropriate
numbers		numbers
en HTU-TU, HTU-HTU Understan	nd multiplication as	Understand division as sharing
e 'repeated	addition'	equally
ck Arrays		12 sweets shared between 3 people
	3 + 3 + 3 + 3	How many do they have each?
-20	4 lots of 3	Élistas Élistas Élistas
	4 times 3	
47	4 × 3	
4/ Number L	ine	12 ÷ 3 = 4
		Understand division as 'repeated
		subtraction' OR grouping
+50 +4 Commutat	ivity	There are 24 sweets. Put 4 in each
		box. How many boxes do you need?
		Ensing Ensing Ensing Ensing
0 90 94 QQQ	4 x 3	
		24 ÷ 4 = 6
3 × 4		See as: How many 4s make 24? Emphasise that you are taking away
	and a market of the state	the same number each time.
	ig to multiply teen	Number Line
	8 6 2 3 - 19	Repeated subtraction to divide can
$1 10 \times 3 = 4/$	0  U = 0	
		also be shown on a number line.
	10 × 3 = 30	also be shown on a number line. 24 ÷ 4 = 6
	+50 +4 $60 +30 +4$ $7 - 10$	+50 +4 90 94 $4 \times 3$ $3 \times 4$ Partitioning to multiply 'teen'

Remainders
Need a good knowledge of
multiplication and division tables.
Also do as word problem.
e.g. There are 16 children. They are
put in teams of 3. How many teams
are there? How many children are
left over?
16 ÷ 3 =
How many 3s in 16?
5 × 3 = 15
If you used 15, how much is left over
(remainder)?
16 - 15 = 1

	YEAR F	FOUR	
	Children need to understand the conce		
	be written either side of the equality sig		
ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
+ = signs and missing numbers	<ul> <li>signs and missing numbers</li> </ul>	x = signs and missing numbers	÷ = signs and missing numbers
Continue using a range of equations as	Continue using a range of equations as	Continue using a range of equations	Continue using a range of equations
in Y1 and 2 but with appropriate	in Year 1 and 2 but with appropriate	as in Year 2 but with appropriate	as in Year 2 but with appropriate
numbers.	numbers.	numbers	numbers
HTU + TU, then HTU + HTU	HTU - TU, then HTU - HTU	τυ × υ	TU ÷ U
Adding the least significant digits	Decomposition	Partitioning	Understand division as sharing and
first	Begin by only needing to exchange	23	grouping
367	tens for units, then hundreds for	<u>× 4</u>	Understand division either as sharing
<u>+ 85</u>	tens. It may be helpful to label the	12 (3 × 4)	equally or as grouping (repeated
12	columns.	<u>+ 80</u> (20 × 4)	subtraction).
140	НΤυ	92	See examples from year 3.
<u>300</u>	2 <sup>7</sup> 8 <sup>1</sup> 4		
452	<u>- 38</u>	Grid method	Short division
	246		Initially, children will continue to use
Using 'carrying'		x 20 3	correct place value vocabulary, but
367	нти	4 80 12 = 92	as they become more confident, they
+ 85	<sup>1</sup> 2 <sup>17</sup> 8 <sup>1</sup> 4		can be introduced to 'digit-speak'.
<u>452</u>	<u>- 98</u>		
1 1	8 6		TU ÷ U, no remainder and no
			carrying
Extend to decimals			
Begin to add two three-digit sums of	Extend to decimals		T U (There are exactly
money. Know that decimal points should	Find the difference between two		3) 9 3 1 three in 3. The
line up under each other.	three-digit sums of money. Know that		answer is 31.
	decimal points should line up under		
	each other.		('Digit-speak' version
			How many threes in 9 (tens)? 3 (tens)
			How many threes in 3? 1
			The answer is 31.



	YEAR I	FIVE	
	Children need to understand the conce	pt of equality when using the '=' sign.	
Calculations should b	be written either side of the equality sig	n, so that the sign is not just interprete	ed as 'the answer'.
ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
+ = signs and missing numbers	<ul> <li>signs and missing numbers</li> </ul>	x = signs and missing numbers	÷ = signs and missing numbers
Continue using a range of equations as in Y1 and 2 but with appropriate numbers.	Continue using a range of equations as in Year 1 and 2 but with appropriate 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
HTU + HTU, then ThHTU + ThHTU	HTU - HTU, then ThHTU - ThHTU	HTU x U and TU x TU	HTU ÷ U
Use 'carrying' 587 3587 + <u>475</u> + <u>675</u> <u>1062</u> <u>4262</u> 11 11 Extend to decimals Add two or more decimal fractions with up to three digits and the same number of decimal places. Know that decimal points should line up under each other.	Decomposition 614 1 754 - 286 468 Extend to decimals Find the difference between two decimal fractions with up to three digits and the same number of decimal places. Know that decimal points should line up under each other.	Partitioning       346       Lead to       346 $x  9$ $x  9$ $346$ $346$ $x  9$ $x  9$ $346$ $346$ $54$ $(6 \times 9)$ $3114$ $360$ $(40 \times 9)$ $\frac{+2700}{3114}$ $(300 \times 9)$ $3114$ $45$ $72$ $x  38$ $576$ $(72 \times 8)$ $\frac{+2160}{2736}$ $(72 \times 30)$ $2736$ Grid method $45$ $45$	Understand division as sharing and grouping Understand the operation of division either as sharing equally or as grouping (repeated subtraction). See examples from year 3. Short division Initially, children will continue to use correct place value vocabulary, but as they become more confident, they can be introduced to 'digit-speak'. See examples in year 4 section, but apply the steps to HTU ÷ U.
		$\begin{array}{ c c c c c c c c }\hline X & 300 & 40 & 6 \\ \hline 9 & 2700 & 360 & 54 \\\hline \hline 9 & 2700 & 360 & 54 \\\hline \hline 30 & 2100 & 60 \\\hline 8 & 560 & 16 \\\hline & & + 576 \\\hline & & 2736 \\\hline 1 \\\hline \hline \hline$	Remainders Begin to give a quotient as a <i>fraction</i> , when dividing by a whole number. Begin to give a quotient as a decimal fraction, when dividing by 10, 5, 4 or 2.

	YEAR	SIX	
	Children need to understand the concer		
	be written either side of the equality sig		
ADDITION + = signs and missing numbers	SUBTRACTION - = signs and missing numbers	MULTIPLICATION x = signs and missing numbers	DIVISION ÷ = signs and missing numbers
<ul> <li>F = signs and missing numbers</li> <li>Continue using a range of equations as</li> <li>in Y1 and 2 but with appropriate</li> <li>numbers.</li> </ul>	- = signs and missing numbers Continue using a range of equations as in Year 1 and 2 but with appropriate 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
ThHTU + ThHTU, then any number of digits Using 'carrying' 7648 6584 + <u>1486</u> + <u>5848</u> <u>9134</u> <u>12432</u> 111 Extend to decimals Using the chosen method, add two or more decimal fractions with up to four digits and either one or two decimal places. Know that decimal points should line up under each other.	ThHTU - ThHTU, then any number of digits Decomposition 51316 6467 - 2684 3783 Extend to decimals Using the chosen method, subtract two or more decimal fractions with up to three digits and either one or two decimal places. Know that decimal points should line up under each other.	ThHTU x U and HTU x TU Partitioning 4346 Lead to 4346 x 8 x 8 x 8 48 (6 x 8) $34768$ 320 (40 x 8) 2400 (300 x 8) + 32000 (4000 x 8) 34768 352 x 27 2464 (352 x 7) + 7040 (352 x 20) 9504 1 Grid method $\overline{X} 4000 300 40 6$ 8 32000 2400 320 48 =34768 $\overline{X} 300 50 2$ 20 6000 1000 40 7 2100 350 14 $+2464$ 9504 Extend to decimals	HTU ÷ TU Short division Use short division supported by jottings. 24 16 ) 3 8 64 16 (the first few multiples of 16) 32 48 64 Remainders Give a quotient as a <i>fraction</i> when dividing by a whole number. Give a quotient as a <i>decimal fraction</i> . Extend to decimals Use decimals with up to two decimal places divided by U. Know that decimal points should line up under each other.
		Decimals with two decimal places x U	