

Help your child with
maths at home!





Welcome,

Following on from our successful parent 'drop in' workshops during the autumn term, we have pulled together a document which aims to help you to further support your child's learning in maths at home.

We have broken down the various domains of mathematics from Curriculum 2014 into the core operations that your child will be taught. These will be displayed as 4 posters: addition, subtraction, multiplication and division. Each poster shows the various methods and strategies that your child will learn in their maths work.

In school we strive to apply the four operations above (+ - x and ÷) in a creative and practical way. We provide real life opportunities to explore mathematical concepts and enable our children to make links within their maths learning.

As parents the best things that you can do to support your child in developing competency in mathematics are...

- provide as many real life maths experiences as possible
- ask open ended questions
- practice mental maths activities/ x tables (*see recommended websites*)
- encourage your child to investigate and find different ways and possibilities of reaching an answer
- support your child to give reasons about their working out and how they have arrived at an answer.

By supporting your child in the ways mentioned above, along with using the strategies provided within our posters, you are enabling them to become confident and consolidate their learning from school.

We continue to thank you for working in partnership with us to provide the best possible outcomes for your child. We hope that you find our progression posters useful. If you require any additional information in order to support your child with maths at home then please see your child's class teacher or alternatively make an appointment with Mrs Wright who is our Maths Co-ordinator and will be happy to help!

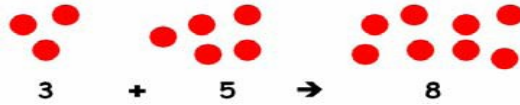
+ Addition +

Year 1 and 2

Y1

- add and subtract 1 and 2 digit numbers to 20 including 0

Count all: $3 + 5$ count out three counters and then five counters, and then find the total by counting all the counters



Count on from the first number: $3 + 5$ count on from the first number: '4, 5, 6, 7, 8'

'3'

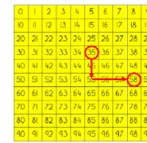
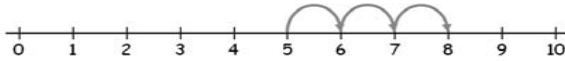


Count on from the largest number:

$$3 + 5$$

$$35 + 23$$

'5'



Count on 2 tens then 3 ones.

Year 2, Year 3

Y2

- add numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers

Y3

- add numbers with up to three digits, using formal written methods of columnar addition

Column addition

No carrying

$$\begin{array}{r} 34 \\ + 25 \\ \hline 59 \end{array}$$

Carrying

$$\begin{array}{r} 76 \\ + 417 \\ \hline 123 \end{array}$$

3 digits

$$\begin{array}{r} 389 \\ + 21316 \\ \hline 625 \end{array}$$

Year 4, 6, 5

Y4

- add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate

Y5

- add numbers with more than 4 digits including using formal written methods- columnar addition

Y6

- pupils practise addition for larger numbers, using the formal written methods of columnar addition

Year 4, Year 5, Year 6 (plus challenge)

Compact addition

$$\begin{array}{r} 539 \\ + 4912 \\ \hline 1031 \end{array}$$

$$\begin{array}{r} 3587 \\ + 161715 \\ \hline 4262 \end{array}$$

$$\begin{array}{r} 6584 \\ + 15181418 \\ \hline 12432 \end{array}$$

$$\begin{array}{r} 25.9 \\ + 7151.3 \\ \hline 101.2 \end{array}$$

$$\begin{array}{r} 246.23 \\ + 5318.618 \\ \hline 784.91 \end{array}$$

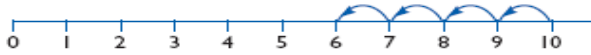
Year 1,2

Y1

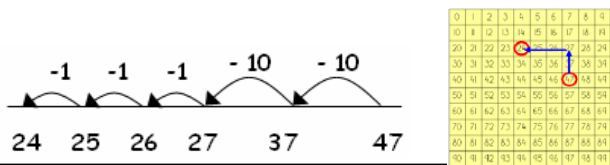
- Subtract 1 and 2 digits to 20 including 0
- Solve 1 step problems that involve subtraction using concrete objects and representations

Counting back: (take away reduction)

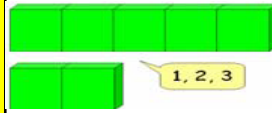
4 less than 10



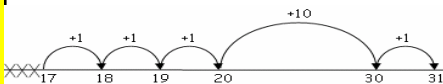
$$13 - 5 =$$



Counting on: (take away reduction) 'the difference between 3 and 6'



$$31 - 17 =$$



Start at 17 and count on to 31

Y2

- subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers

Y3

- subtract numbers with up to three digits, using formal written methods of columnar subtraction

Y4

- subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate

Y5

- subtract whole numbers with more than 4 digits, including using formal written methods

Y6

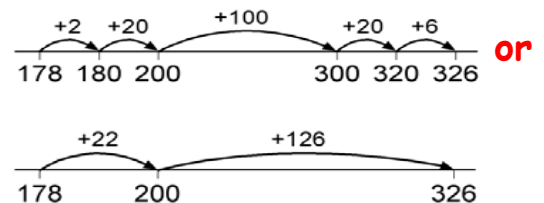
- pupils practise subtraction for larger numbers, using the formal written methods of columnar subtraction

Year 2, Year 3

Counting on

$$74 - 27 =$$

$$326 - 178 =$$



Year 2 — Year 6 plus challenge

Compact method

$\begin{array}{r} 98 \\ - 53 \\ \hline 45 \end{array}$	$\begin{array}{r} 765 \\ - 433 \\ \hline 332 \end{array}$	$\begin{array}{r} 7 \\ \cancel{8}12 \\ - 58 \\ \hline 24 \end{array}$	$\begin{array}{r} 4^{13} \\ \cancel{5}4^{13} \\ - 268 \\ \hline 275 \end{array}$	$\begin{array}{r} 199 \\ \cancel{2} \cancel{10} \cancel{10} 18 \\ - 689 \\ \hline 1319 \end{array}$	$\begin{array}{r} 18^{14} \\ 5 \cancel{9} \cancel{5} 14 \\ - 23.96 \\ \hline 35.58 \end{array}$
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x Multiplication x

Year 1

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

Year 2

- use materials, arrays, repeated addition, mental methods and multiplication facts



Counting in equal steps: (2s, 3s, 5s and 10s)

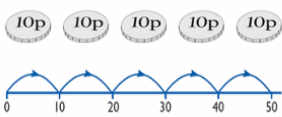
Repeated addition



$$2 + 2 + 2 + 2 + 2 = 10$$

$$2 \times 5 = 10$$

2 multiplied by 5
5 pairs

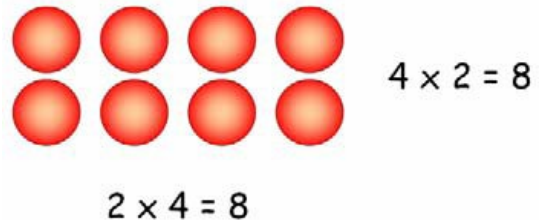


$$10p + 10p + 10p + 10p + 10p = 50p$$

$$10p \times 5 = 50p$$

5 jumps of 10

Describing an array



Year 3, 4

Year 3

- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

Year 4

- multiply two-digit and three-digit numbers by a one-digit number using formal written layout

Grid method

$$38 \times 7 =$$

210+	x	30	8
<u>56</u>			
266	7	210	56

$$284 \times 3 =$$

600+	x	200	80	4
<u>12</u>				
852	3	600	240	12

Use 'Grid multiplication' ITP to help

Year 5

- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Year 6

- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Short multiplication

$45 \times$	$342 \times$
$\begin{array}{r} 45 \\ \times 4 \\ \hline 180 \end{array}$	$\begin{array}{r} 342 \\ \times 5 \\ \hline 1710 \end{array}$

Year 4, Year 5, Year 6

Short multiplication

$38 \times$	$25.6 \times$
$\begin{array}{r} 38 \\ \times 7 \\ \hline 266 \end{array}$	$\begin{array}{r} 25.6 \\ \times 8 \\ \hline 204.8 \end{array}$

Grid method

$$56 \times 27$$

x	50	6	1120+
20	1000	120	<u>392</u>
7	350	42	<u>1512</u>

Long multiplication

$$56 \times 27$$

$56 \times$
$\begin{array}{r} 56 \\ \times 27 \\ \hline 392 \\ 1120 \\ \hline 1512 \end{array}$
(56 x 7)
(56 x 20)

÷ Division ÷

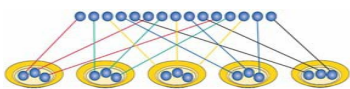
Y1,2

Y1 Through grouping and sharing small quantities, pupils begin to understand division

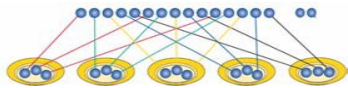
Y2 Pupils work with a range of materials and contexts in which multiplication and division relate to grouping

Sharing

15 marbles are shared out equally among 5 children



$17 \div 5 =$

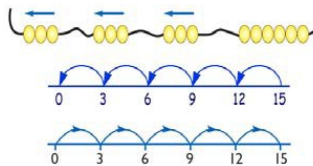


Cut the pizza in half. How many pieces are there?

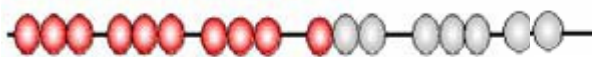
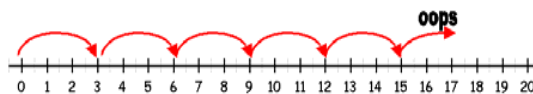


Grouping

15 marbles put into groups of 3



$17 \div 3 =$



Y3
Y4
Y5

Y3 Develop reliable written methods for division, starting with calculations of two-digit numbers by one-digit numbers

Y4 Use short division with exact answers when dividing by a one-digit number

Y5

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context

Short division: compact method

No remainders

$96 \div 3 =$

$$\begin{array}{r} 32 \\ 3 \overline{) 96} \end{array}$$

$846 \div 2 =$

$$\begin{array}{r} 423 \\ 2 \overline{) 846} \end{array}$$

$75 \div 5 =$

$$\begin{array}{r} 15 \\ 5 \overline{) 75} \end{array}$$

With remainders

$95 \div 4 =$

$$\begin{array}{r} 23 \text{ r}3 \\ 4 \overline{) 95} \end{array}$$

$783 \div 4 =$

$$\begin{array}{r} 195 \text{ r}3 \\ 4 \overline{) 783} \end{array}$$

Y5,6

Y6

divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Short division: compact method

Fraction remainder

$783 \div 4 =$

$$\begin{array}{r} 195 \frac{3}{4} \\ 4 \overline{) 783} \end{array}$$

Decimal remainder

$783 \div 4 =$

$$\begin{array}{r} 195.75 \\ 4 \overline{) 783.00} \end{array}$$

Long division using the compact method

$504 \div 21 =$

$$\begin{array}{r} 024 \\ 21 \overline{) 504} \end{array}$$

Begin to write out multiples of 21:

- 21
- 42
- 63

$$\begin{array}{r} 024 \\ 21 \overline{) 504} \\ \underline{42} \\ 84 \\ \underline{84} \\ 00 \end{array}$$