

## 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 $\div$ ) 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:

$$
3+5 \quad 35+23
$$

'5'


## Year 2, Year 3

Year 4,6,5

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

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

## 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

| 539 | 3587 |
| ---: | ---: | ---: | ---: | ---: |
| $+49_{1} 2$ |  |
| 1031 |  |



## 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

|  |  | 7 | $4^{13}$ | 199 |  | ${ }^{18} 8{ }^{1} 4$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 98 | 765 | $8{ }^{12}$ | $54{ }^{13}$ | $Q^{1} Q^{1} Q^{18}$ | 5 | 2. $51{ }^{14}$ |
| - 53 | -433 | - 58 | - 268 | -689 | - | 3.96 |
| 45 | 332 | 24 | 275 | 1319 | 3 | 5.58 |

x Multiplication

## 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


$$
\begin{aligned}
& 10 p+10 p+10 p+10 p+10 p=50 p \\
& 10 p \times 5=50 p \\
& 5 \text { jumps of } 10
\end{aligned}
$$

Describing an array

$2 \times 4=8$

## 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 threedigit numbers by a one-digit number using formal written layout


## Grid method

$38 \times 7=$


## 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
$45 x \quad 342 x$

| 24 |
| ---: |
|  |
|  |
| 1710 |

## Year 4, Year 5, Year 6

Short multiplication
$38 x$
$25.6 x$ $\begin{array}{r}57 \\ \hline 266 \\ \hline\end{array}$

## Grid method

$56 \times 27$

| $x$ | 50 | 6 | $1120+$ |
| :---: | :---: | :---: | :---: |
| 20 | 1000 | 120 | 392 |
| 7 | 350 | 42 | 1512 |

Long multiplication $56 \times 27$
$\begin{array}{r}56 \times \\ 27 \\ \hline 392 \\ 1120 \\ \hline 1512 \\ \hline\end{array} \quad(56 \times 20)$
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 | 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- |
| :--- |
| Y5 |
|  |
|  |
| 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 |  | With remainders |  |
| :---: | :---: | :---: | :---: | :---: |
| $96 \div 3=$ | $846 \div 2=$ | $75 \div 5=$ | $95 \div 4=$ | $783 \div 4=$ |
| 32 | 423 | 15 | $23 r 3$ | $195 r 3$ |
| $3 \longdiv { 9 6 }$ | $2 \longdiv { 8 4 6 }$ | $5 \longdiv { 7 ^ { 2 } 5 }$ | $4 \longdiv { 9 ^ { 1 } 5 }$ | $4 \longdiv { 7 ^ { 3 } 8 ^ { 2 } 3 }$ |

## Y5,6 ${ }^{\text {Y6 }}$

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 | Decimal remainder |
| :---: | :---: |
| $783 \div 4=$ | $783 \div 4=$ |
| $195^{\frac{3}{4}}$ | 495.75 |
| $47^{7^{3} 8^{2} 3}$ | $4 \longdiv { 7 ^ { 3 } 8 ^ { 2 } 3 \cdot { } ^ { 3 } 0 ^ { 2 } 0 }$ |

See appendix 1: division examples for 2014 National Curriculum

Long division using the compact method


