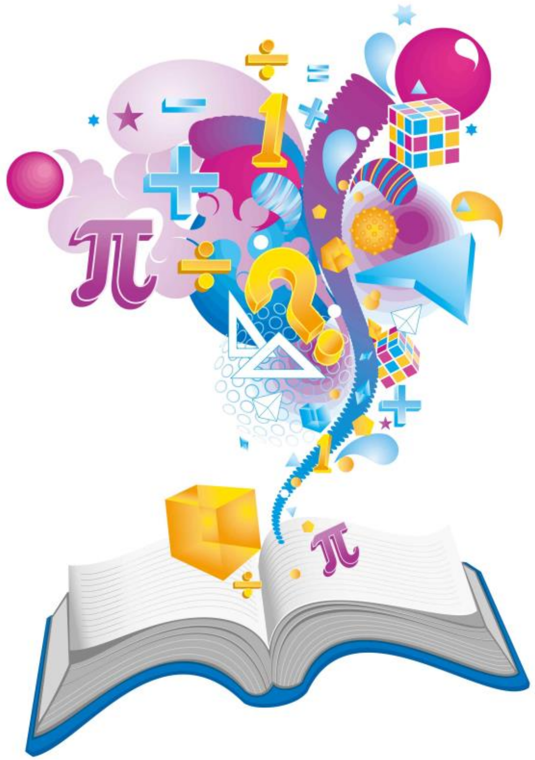
Maths Parent Workshop January 2025



Year 3

Aim of the session

- To explain what the National Expectations are for your child by the end of Year 3
- To give you ideas and ways to support your child at home.
- To understand how the four operations are taught in Year 3
- To understand how you can support your child with their maths homework

Addition and Subtraction

- To recognise the place value of each digit in a three-digit number (100s, 10s, and 1s)
- Know and use number bonds to 100 and 1000
- Estimate and use inverse operations to check answers to a calculation
- Solve two-step addition and subtraction problems

Addition

Formal method using HTO

Carrying over

Carries over to the bottom

Addition

+ and = signs and missing numbers

Partition into tens and ones and recombine
53 + 36= 89
(Begin to use numbers where the units exceed 10)

Add a near multiple of 10 to a two-digit number
Continue as in Year 2 but with appropriate numbers, e.g. 35 +19 is the same as 35 + 20 – 1

```
  8 3
+ 4 2
    5 (3 + 2)
1 2 0 (80 + 40)
1 2 5
```

Formal written methods introduced
83 + 24 = 125

Children to work with HTU (3 digits)

```
  3 5 8
+   7 3
  4 3 1
    1 1
```

```
5 0 + 3
3 0 + 6
8 0 + 9 = 8 9
```

Children to begin to use formal written methods **down** the page. Addition sign on the left of the problem. Add numbers with up to 3 digits, using formal written methods of column addition

Add numbers mentally, including: a three-digit number and 1s, a three-digit number and 10s, a three-digit number and 100s.

Estimate answers and use inverse operations to check answers

Solve problems, including missing number problems, using number facts, place value, and more complex addition.

+ and = signs and missing numbers
Continue using a range of equations as in Year 1 and 2 but with appropriate larger numbers.

Subtraction

Formal method using HTO

Exchanging
Starting from the Ones moving towards the Hundred

Subtraction

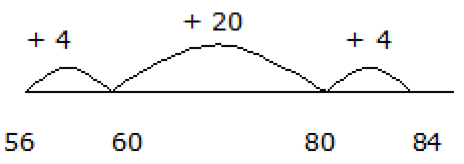
__- = signs and missing numbers__

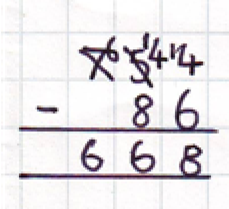
Continue using a range of equations as in Year and 2 but with appropriate numbers.

Find a small difference by counting up
Continue as in Year 2 but with appropriate numbers
e.g. 102 – 97 = 5

Subtract mentally a 'near multiple of 10' to or from a two-digit number
Continue as in Year 2 but with appropriate numbers
e.g. 78 – 49 is the same as 78 – 50 + 1

Pencil and paper procedures
Complementary addition
84 – 56 = 28





2 ~~9~~ 8 1 1
\- 5 5
2 3 6

Consolidate number facts and calculation strategies from Year 3

7 ~~8~~ 1 4
\- 2 6
5 8

Children to begin to use formal written methods **down** the page Subtraction sign on the left of the problem

Multiplication

Arrays and repeated addition to continue to understand the link between multiplication and addition

Partitioning method

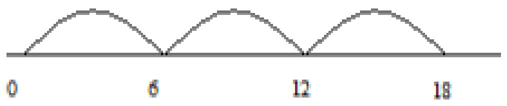
TO x O

Recombining

<u>x = signs and missing numbers</u>

Continue using a range of equations as in Year 2 but with appropriate numbers.

Number lines
6 x 3



Arrays and repeated addition
Continue to understand multiplication as repeated addition and continue to use arrays (as in Year 2).

Doubling multiples of 5 up to 50
35 x 2 = 70

<u>Doubling three digit numbers and multiples of 5, 10 and 100</u>

1 3 5
200+60+10=270

<u>Partition</u>
35 x 2 = 70

30 x 2 = 60
5 x 2 = 10

60
+10
70

Division

Understand division as sharing and grouping.

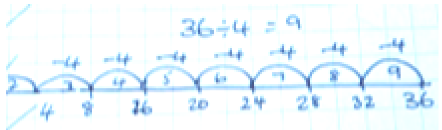
Use informal and written methods and formal method.

Solve problems, including missing number problems, involving division.

÷ = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers.

Understand division as sharing and grouping (repeated subtraction) eg 36 ÷ 4 = 9 can be modelled as: 36 can be shared between 4

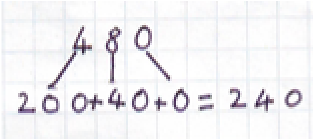


people, how many do they have each?

Equally the inverse can be taught where pupils jump up*

Grouping and remainders linked to times tables
How many 3's make 16? How many left over?
16 ÷ 3 = 5 r 1

Halving even numbers up to 100 and multiples of 10
Half of 480 = 240



Children to use informal written methods and formal written methods

Divisibility rules – for the 2, 3, 4, 5, 8. 10 and 100 times tables.

Write and calculate mathematical statements for 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.

Solve problems, including missing number problems, involving division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Key Instant Recall Facts

Year 3 – Autumn 1

I know number bonds for all numbers to 20.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

2 + 9 = 11	5 + 9 = 14
3 + 8 = 11	6 + 8 = 14
4 + 7 = 11	7 + 7 = 14
5 + 6 = 11	6 + 9 = 15
3 + 9 = 12	7 + 8 = 15
4 + 8 = 12	7 + 9 = 16
5 + 7 = 12	8 + 8 = 16
6 + 6 = 12	8 + 9 = 17
4 + 9 = 13	9 + 9 = 18
5 + 8 = 13	
6 + 7 = 13	

Example of a fact family

6 + 9 = 15
9 + 6 = 15
15 – 9 = 6
15 – 9 = 6

Examples of other facts

4 + 5 = 9
13 + 5 = 18
19 – 7 = 12
10 – 6 = 4

Key Vocabulary

What do I **add** to 5 to make 19?

What is 17 **take away** 6?

What is 13 **less than** 15?

How many more than 8 is 11?

What is the **difference** between 9 and 13?

This list includes the most challenging facts but children will need to learn **all** number bonds for each number to 20 (e.g. 15 + 2 = 17). This includes related subtraction facts (e.g. 17 – 2 = 15).

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Buy one get three free - If your child knows one fact (e.g. 8 + 5 = 13), can they tell you the other three facts in the same fact family?

Use doubles and near doubles – If you know that 6 + 6 = 12, how can you work out 6 + 7? What about 5 + 7?

Play games – There are missing number questions at www.conkermaths.com . See how many questions you can answer in just one minute.

Key Instant Recall Facts

Year 3 – Autumn 2

I know the multiplication and division facts for the 3 times table.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

3 × 1 = 3	1 × 3 = 3	3 ÷ 3 = 1	3 ÷ 1 = 3
3 × 2 = 6	2 × 3 = 6	6 ÷ 3 = 2	6 ÷ 2 = 3
3 × 3 = 9	3 × 3 = 9	9 ÷ 3 = 3	9 ÷ 3 = 3
3 × 4 = 12	4 × 3 = 12	12 ÷ 3 = 4	12 ÷ 4 = 3
3 × 5 = 15	5 × 3 = 15	15 ÷ 3 = 5	15 ÷ 5 = 3
3 × 6 = 18	6 × 3 = 18	18 ÷ 3 = 6	18 ÷ 6 = 3
3 × 7 = 21	7 × 3 = 21	21 ÷ 3 = 7	21 ÷ 7 = 3
3 × 8 = 24	8 × 3 = 24	24 ÷ 3 = 8	24 ÷ 8 = 3
3 × 9 = 27	9 × 3 = 27	27 ÷ 3 = 9	27 ÷ 9 = 3
3 × 10 = 30	10 × 3 = 30	30 ÷ 3 = 10	30 ÷ 10 = 3
3 × 11 = 33	11 × 3 = 33	33 ÷ 3 = 11	33 ÷ 11 = 3
3 × 12 = 36	12 × 3 = 36	36 ÷ 3 = 12	36 ÷ 12 = 3

Key Vocabulary

What is 3 **multiplied by** 8?

What is 8 **times** 3?

What is 24 **divided by** 3?

They should be able to answer these questions in any order, including missing number questions e.g. 3 × ◯ = 18 or ◯ ÷ 3 = 11.

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Buy one get three free – If your child knows one fact (e.g. 3 × 5 = 15), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.
E.g. 3 × 12 = 36. The answer to the multiplication is 36, so 36 ÷ 3 = 12 and 36 ÷ 12 = 3

Key Instant Recall Facts

Year 3 – Spring 1

I can recall facts about durations of time.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

There are 60 seconds in a minute.
There are 60 minutes in an hour.
There are 24 hours in a day.
There are 7 days in a week.
There are 12 months in a year.
There are 365 days in a year.
There are 366 days in a leap year.

Number of days in each month

January	31	July	31
February	28/29	August	31
March	31	September	30
April	30	October	31
May	31	November	30
June	30	December	31

Children also need to know the order of the months in a year. They should be able to apply these facts to answer questions, such as:

What day comes after 30th April?

What day comes before 1st February?

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Use rhymes and memory games– The rhyme, *Thirty days hath September*, can help children remember which months have 30 days. There are poems describing the months of the year in order.

Use calendars – If you have a calendar for the new year, your child could be responsible for recording the birthdays of friends and family members in it. Your child could even make their own calendar.

How long is a minute? – Ask your child to sit with their eyes closed for exactly one minute while you time them. Can they guess the length of a minute? Carry out different activities for one minute. How many times can they jump in sixty seconds?

Key Instant Recall Facts

Year 3 – Spring 2

I know the multiplication and division facts for the 4 times table.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

4 × 1 = 4	1 × 4 = 4	4 ÷ 4 = 1	4 ÷ 1 = 4
4 × 2 = 8	2 × 4 = 8	8 ÷ 4 = 2	8 ÷ 2 = 4
4 × 3 = 12	3 × 4 = 12	12 ÷ 4 = 3	12 ÷ 3 = 4
4 × 4 = 16	4 × 4 = 16	16 ÷ 4 = 4	16 ÷ 4 = 4
4 × 5 = 20	5 × 4 = 20	20 ÷ 4 = 5	20 ÷ 5 = 4
4 × 6 = 24	6 × 4 = 24	24 ÷ 4 = 6	24 ÷ 6 = 4
4 × 7 = 28	7 × 4 = 28	28 ÷ 4 = 7	28 ÷ 7 = 4
4 × 8 = 32	8 × 4 = 32	32 ÷ 4 = 8	32 ÷ 8 = 4
4 × 9 = 36	9 × 4 = 36	36 ÷ 4 = 9	36 ÷ 9 = 4
4 × 10 = 40	10 × 4 = 40	40 ÷ 4 = 10	40 ÷ 10 = 4
4 × 11 = 44	11 × 4 = 44	44 ÷ 4 = 11	44 ÷ 11 = 4
4 × 12 = 48	12 × 4 = 48	48 ÷ 4 = 12	48 ÷ 12 = 4

Key Vocabulary

What is 4 **multiplied by** 6?

What is 8 **times** 4?

What is 24 **divided by** 4?

They should be able to answer these questions in any order, including missing number questions e.g. 4 × ◯ = 16 or ◯ ÷ 4 = 7.

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

What do you already know? – Your child will already know many of these facts from the 2, 3, 5 and 10 times tables.

Double and double again – Multiplying a number by 4 is the same as doubling and doubling again. Double 6 is 12 and double 12 is 24, so 6 × 4 = 24.

Buy one get three free – If your child knows one fact (e.g. 12 × 4 = 48), can they tell you the other three facts in the same fact family?

Key Instant Recall Facts

Year 3 – Summer 1

I can tell the time.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Children need to be able to tell the time using a clock with hands. This target can be broken down into several steps.

- I can tell the time to the nearest hour.
- I can tell the time to the nearest half hour.
- I can tell the time to the nearest quarter hour.
- I can tell the time to the nearest five minutes.
- I can tell the time to the nearest minute.

Key Vocabulary

Twelve **o'clock**

Half past two

Quarter past three

Quarter to nine

Five **past** one

Twenty-five **to** ten

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. If you would like more ideas, please speak to your child's teacher.

Talk about time - Discuss what time things happen. When does your child wake up? What time do they eat breakfast? Make sure that you have an analogue clock visible in your house or that your child wears a watch with hands. Once your child is confident telling the time, see if you can find more challenging clocks e.g. with Roman numerals or no numbers marked.

Ask your child the time regularly – You could also give your child some responsibility for watching the clock :
"The cakes need to come out of the oven at twenty-two minutes past four exactly."
"We need to leave the house at twenty-five to nine."

Key Instant Recall Facts

Year 3 – Summer 2

I know the multiplication and division facts for the 8 times table.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

8 × 1 = 8	1 × 8 = 8	8 ÷ 8 = 1	8 ÷ 1 = 8
8 × 2 = 16	2 × 8 = 16	16 ÷ 8 = 2	16 ÷ 2 = 8
8 × 3 = 24	3 × 8 = 24	24 ÷ 8 = 3	24 ÷ 3 = 8
8 × 4 = 32	4 × 8 = 32	32 ÷ 8 = 4	32 ÷ 4 = 8
8 × 5 = 40	5 × 8 = 40	40 ÷ 8 = 5	40 ÷ 5 = 8
8 × 6 = 48	6 × 8 = 48	48 ÷ 8 = 6	48 ÷ 6 = 8
8 × 7 = 56	7 × 8 = 56	56 ÷ 8 = 7	56 ÷ 7 = 8
8 × 8 = 64	8 × 8 = 64	64 ÷ 8 = 8	64 ÷ 8 = 8
8 × 9 = 72	9 × 8 = 72	72 ÷ 8 = 9	72 ÷ 9 = 8
8 × 10 = 80	10 × 8 = 80	80 ÷ 8 = 10	80 ÷ 10 = 8
8 × 11 = 88	11 × 8 = 88	88 ÷ 8 = 11	88 ÷ 11 = 8
8 × 12 = 96	12 × 8 = 96	96 ÷ 8 = 12	96 ÷ 12 = 8

Key Vocabulary

What is 8 **multiplied by** 6?

What is 8 **times** 8?

What is 24 **divided by** 8?

They should be able to answer these questions in any order, including missing number questions e.g. 8 × ◯ = 16 or ◯ ÷ 8 = 7.

Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Double your fours – Multiplying a number by 8 is the same as multiply by 4 and then doubling the answer. 8 × 4 = 32 and double 32 is 64, so 8 × 8 = 64.

Five six seven eight – fifty-six is seven times eight (56 = 7 × 8).

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

How to help at home

Support weekly homework

www.ttrockstars.com
www.nrich.com
www.mathisfun.com
www.topmarks.co.uk/maths-games/hit-the-button