



Supporting Mathematics at Home



Key vocabulary that is used daily.

EYFS

number
more
less/fewer
add
subtract
whole
part
First
Next
Then

KS1

whole
Part
more/less
addition
plus
subtraction
grouping
multiplication
Partitioning

KS2

Partitioning
Addend and sum
Minuend and subtrahend
Exchange or regrouping
Dividend and divisor
Quotient
Multiplicand and multiplier
Factors and products
operation
inverse operation
commutative law

Questioning



Here are some example questions that can be used when helping your children.

- Can you explain this to me?
- What key words helped you solve this problem?
- Can you imagine if.....?
- Could you have solved this in a different way?
- Which strategy did you use?
- Show me another way.
- Can you prove your answer is right in pictures/words/using resources?

Here are some sentence stems for children to use. This is important for them to explain their understanding and how they solved the mathematical problem.

I can see ____ .

I predict that ____ .

First, I will ____ .

Then, I should ____ .

Or I could ____ .

The answer is ____
because ____ .

I have to ____
I know this
because ____ .

I can prove I'm
right by ____ .

I think ____
because ____ .

I noticed that ____ .

I predict that ____ .

My first step is ____ .

Another strategy
would be ____ .

The answer is ____
because ____ .

To prove my answer is
reasonable, I can ____ .

I know the problem
is asking me to ____
because ____ .

I can prove my
answer by ____ .

I think ____
because ____ .

The most efficient
strategy would be ____ .



Fact Fluency

It is important that all children are secure with their number facts to be successful in mathematics.

KS1

Adding 1

Bonds to 10

Adding 10

Bridging/compensating

Y1 facts

Adding 2

Adding 0

Doubles

Near doubles

Y2 facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10



ASHLEY DOWN
PRIMARY SCHOOL



Lower KS2

	1	2	3	4	5	6	7	8	9	10	11	12
1	1x1	2x1	3x1	4x1	5x1	6x1	7x1	8x1	9x1	10x1		
2	1x2	2x2	3x2	4x2	5x2	6x2	7x2	8x2	9x2	10x2		
3	1x3	2x3	3x3	4x3	5x3	6x3	7x3	8x3	9x3	10x3		
4	1x4	2x4	3x4	4x4	5x4	6x4		8x4		10x4		
5	1x5	2x5	3x5	4x5	5x5	6x5	7x5	8x5	9x5	10x5		
6	1x6	2x6	3x6	4x6	5x6	6x6		8x6		10x6		
7	1x7	2x7	3x7	4x7	5x7	6x7		8x7		10x7		
8	1x8	2x8	3x8	4x8	5x8	6x8		8x8		10x8		
9	1x9	2x9	3x9	4x9	5x9	6x9		8x9		10x9		
10	1x10	2x10	3x10	4x10	5x10	6x10	7x10	8x10	9x10	10x10		
11	1x11	2x11	3x11	4x11	5x11	6x11		8x11		10x11		
12	1x12	2x12	3x12	4x12	5x12	6x12		8x12		10x12		

1 x facts Doubles Squares New Facts Known Facts

	1	2	3	4	5	6	7	8	9	10	11	12
1	1x1	2x1	3x1	4x1	5x1	6x1	7x1	8x1	9x1	10x1	11x1	12x1
2	1x2	2x2	3x2	4x2	5x2	6x2	7x2	8x2	9x2	10x2	11x2	12x2
3	1x3	2x3	3x3	4x3	5x3	6x3	7x3	8x3	9x3	10x3	11x3	12x3
4	1x4	2x4	3x4	4x4	5x4	6x4	7x4	8x4	9x4	10x4	11x4	12x4
5	1x5	2x5	3x5	4x5	5x5	6x5	7x5	8x5	9x5	10x5	11x5	12x5
6	1x6	2x6	3x6	4x6	5x6	6x6	7x6	8x6	9x6	10x6	11x6	12x6
7	1x7	2x7	3x7	4x7	5x7	6x7	7x7	8x7	9x7	10x7	11x7	12x7
8	1x8	2x8	3x8	4x8	5x8	6x8	7x8	8x8	9x8	10x8	11x8	12x8
9	1x9	2x9	3x9	4x9	5x9	6x9	7x9	8x9	9x9	10x9	11x9	12x9
10	1x10	2x10	3x10	4x10	5x10	6x10	7x10	8x10	9x10	10x10	11x10	12x10
11	1x11	2x11	3x11	4x11	5x11	6x11	7x11	8x11	9x11	10x11	11x11	12x11
12	1x12	2x12	3x12	4x12	5x12	6x12	7x12	8x12	9x12	10x12	11x12	12x12

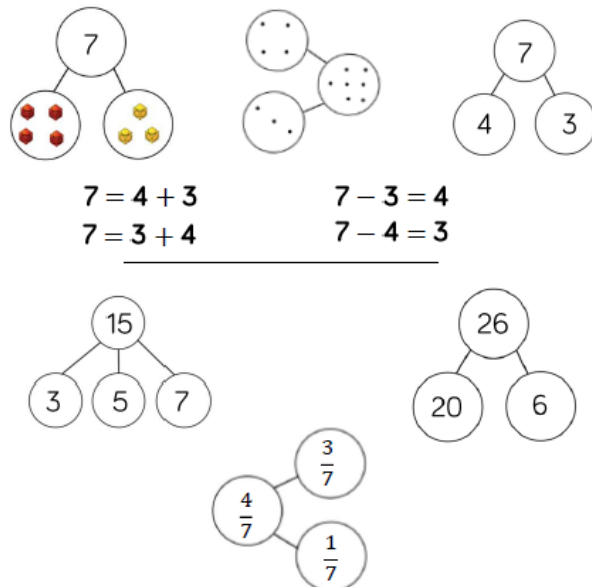
1 x facts Doubles Squares New Facts Known Facts

Calculation policy



Here are some of the methods that we use in school. It is important for children to become familiar secure in a range of methods when solving a problem. Go to the [White Rose website](#) or our Deer Park School website to be able to download the full copy of these useful documents.

Part-Whole Model



Benefits

This part-whole model supports children in their understanding of aggregation and partitioning. Due to its shape, it can be referred to as a cherry part-whole model.

When the parts are complete and the whole is empty, children use aggregation to add the parts together to find the total.

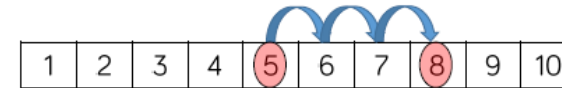
When the whole is complete and at least one of the parts is empty, children use partitioning (a form of subtraction) to find the missing part.

Part-whole models can be used to partition a number into two or more parts, or to help children to partition a number into tens and ones or other place value columns.

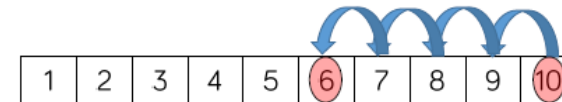
In KS2, children can apply their understanding of the part-whole model to add and subtract fractions, decimals and percentages.

Number Tracks

$$5 + 3 = 8$$



$$10 - 4 = 6$$



$$8 + 7 = 15$$



Benefits

Number tracks are useful to support children in their understanding of augmentation and reduction.

When adding, children count on to find the total of the numbers. On a number track, children can place a counter on the starting number and then count on to find the total.

When subtracting, children count back to find their answer. They start at the minuend and then take away the subtrahend to find the difference between the numbers.

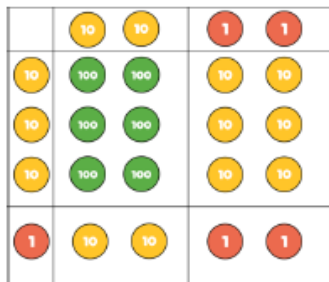
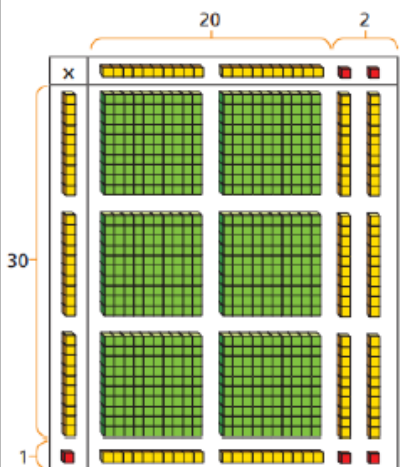
Number tracks can work well alongside ten frames and bead strings which can also model counting on or counting back.

Playing board games can help children to become familiar with the idea of counting on using a number track before they move on to number lines.



Skill: Multiply 2-digit numbers by 2-digit numbers

Year: 5



×	20	2
30	600	60
1	20	2

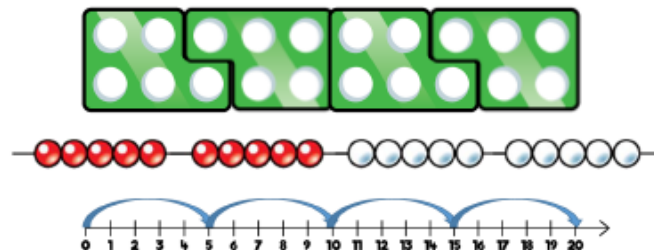
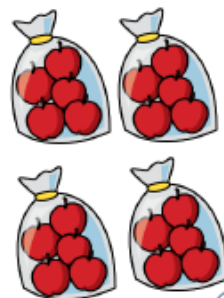
	H	T	O
		2	2
×		3	1
		2	2
	6	6	0
	6	8	2

When multiplying a multi-digit number by 2-digits, use the area model to help children understand the size of the numbers they are using. This links to finding the area of a rectangle by finding the space covered by the Base 10. The grid method matches the area model as an initial written method before moving on to the formal written multiplication method.

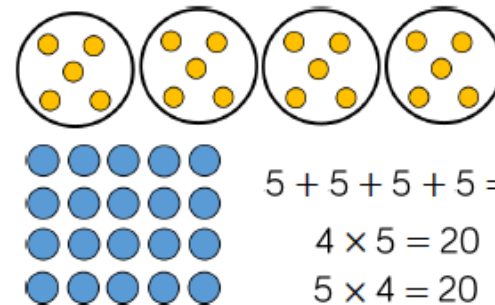
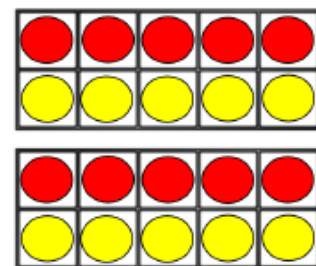
$$22 \times 31 = 682$$

Skill: Solve 1-step problems using multiplication

Year: 1/2



One bag holds 5 apples.
How many apples do 4 bags hold?



$$5 + 5 + 5 + 5 = 20$$

$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

Children represent multiplication as repeated addition in many different ways.

In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally.

In Year 2, children are introduced to the multiplication symbol.

Useful websites



TTRS (KS2) - using the school log in.

Numbots (KS1)- using the school log in.

[BBC Bitesize](#) has a range of games for across the curriculum, but the KS1 Maths game "Karate Cats" and the KS2 Maths game "Guardians: Defenders of Mathematica" come highly recommended.

[Oxford Owl](#) has a range of interactive games and activities you can filter by age.

[Mathsisfun](#) has strategy games such as Connect 4, Chess and Checkers. It is also a good website for vocabulary checking using its mathematical dictionary.

[Mathsbot](#) has great online manipulatives to access at home.