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.

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.

- 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?

I can see _____ .

I noticed that _____ .

I predict that _____ .

I have to ____ I know this because _____ .

I predict that _____ .

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

First, I will _____ .

My first step is _____ .

Then, I should _____ .

Another strategy would be _____ .

I can prove my answer by ____ .

Or I could _____ .

I can prove I'm right by ____ .

The answer is ____ because _____ .

I think ___ because____ .

The answer is ____ because _____ .

I think ___ because____ .

To prove my answer is reasonable, I can _____ .

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

Lower KS2

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

$7 = 4 + 3$
$7 = 3 + 4$

$7 - 3 = 4$
$7 - 4 = 3$
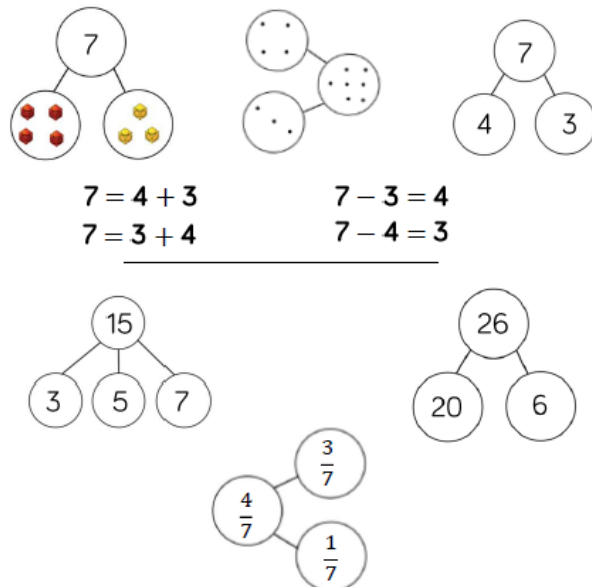
Benefits

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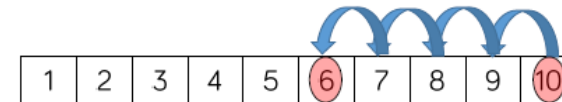
In KS2, children can apply their understanding of the part-whole model to add and subtract fractions, decimals and percentages.

Number Tracks

$5 + 3 = 8$
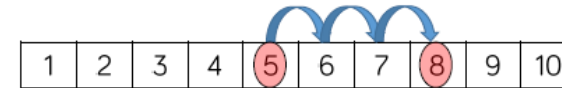
$10 - 4 = 6$

$8 + 7 = 15$

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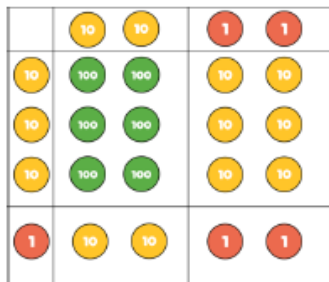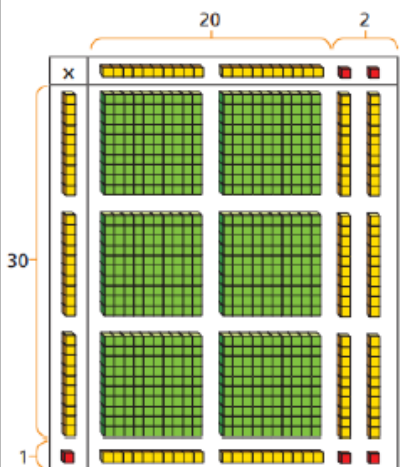
Number tracks can work well alongside ten frames and bead strings which can also model counting on or counting back.

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

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.
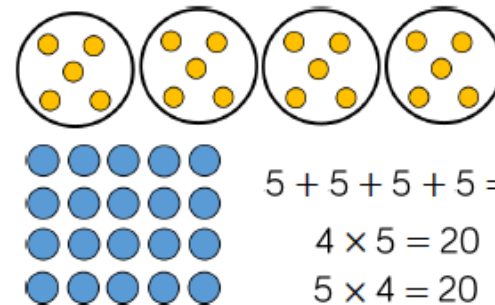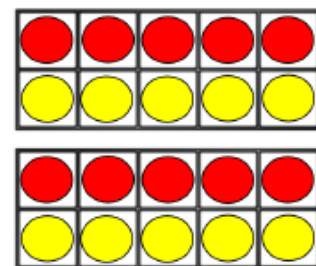
×	20	2
30	600	60
1	20	2

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

$22 \times 31 = 682$

Skill: Solve 1-step problems using multiplication — Year: 1/2
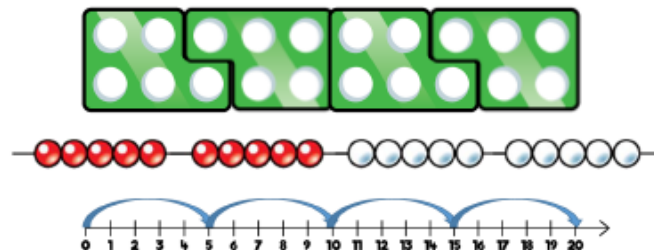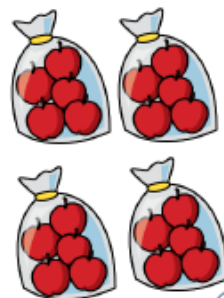
One bag holds 5 apples.
How many apples do 4 bags hold?

$5 + 5 + 5 + 5 = 20$
$4 \times 5 = 20$
$5 \times 4 = 20$

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 Mathmatica" come highly recommended.

Oxford Owl has a range of interactive games and activities you can filter by age.

Mathsisfun has stratey 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.