Maths Parent Workshop

Welcome!

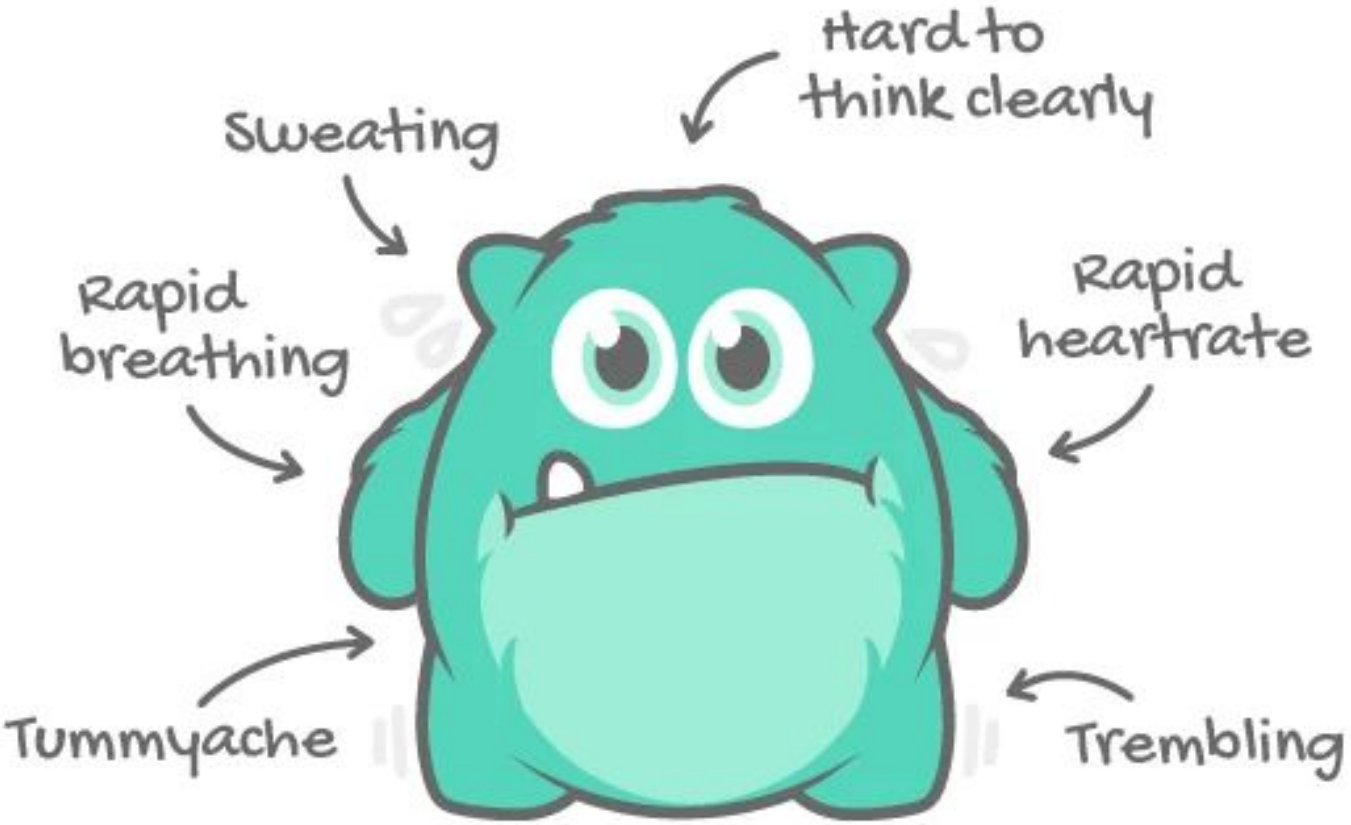
Purpose of meeting

- Share how Maths is taught at Rudston Primary
- Discuss the importance of using manipulatives
- Share ways to support your child with the subitizing and number sense
- Share resources to support your children in Maths

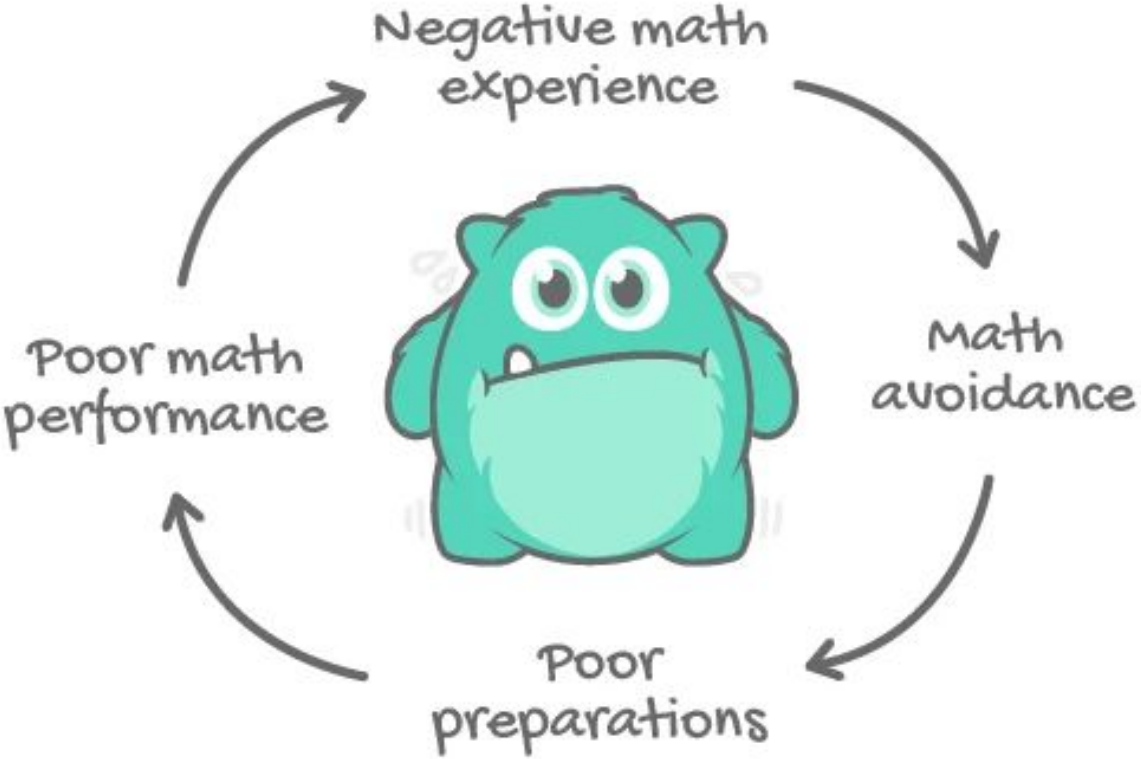
This table shows how many people finished the New York Marathon in each of the first four decades it was held.

New York Marathon	
Decade	**Total number of people who finished**
1st decade	24,863
2nd decade	170,932
3rd decade	282,420
4th decade	350,824

What is the mean number of people who finished the marathon per decade? Round your answer to the **nearest hundred**.


Hard to think clearly
Sweating
Rapid breathing
Rapid heartrate
Tummyache
Trembling

Math anxiety cycle of failure



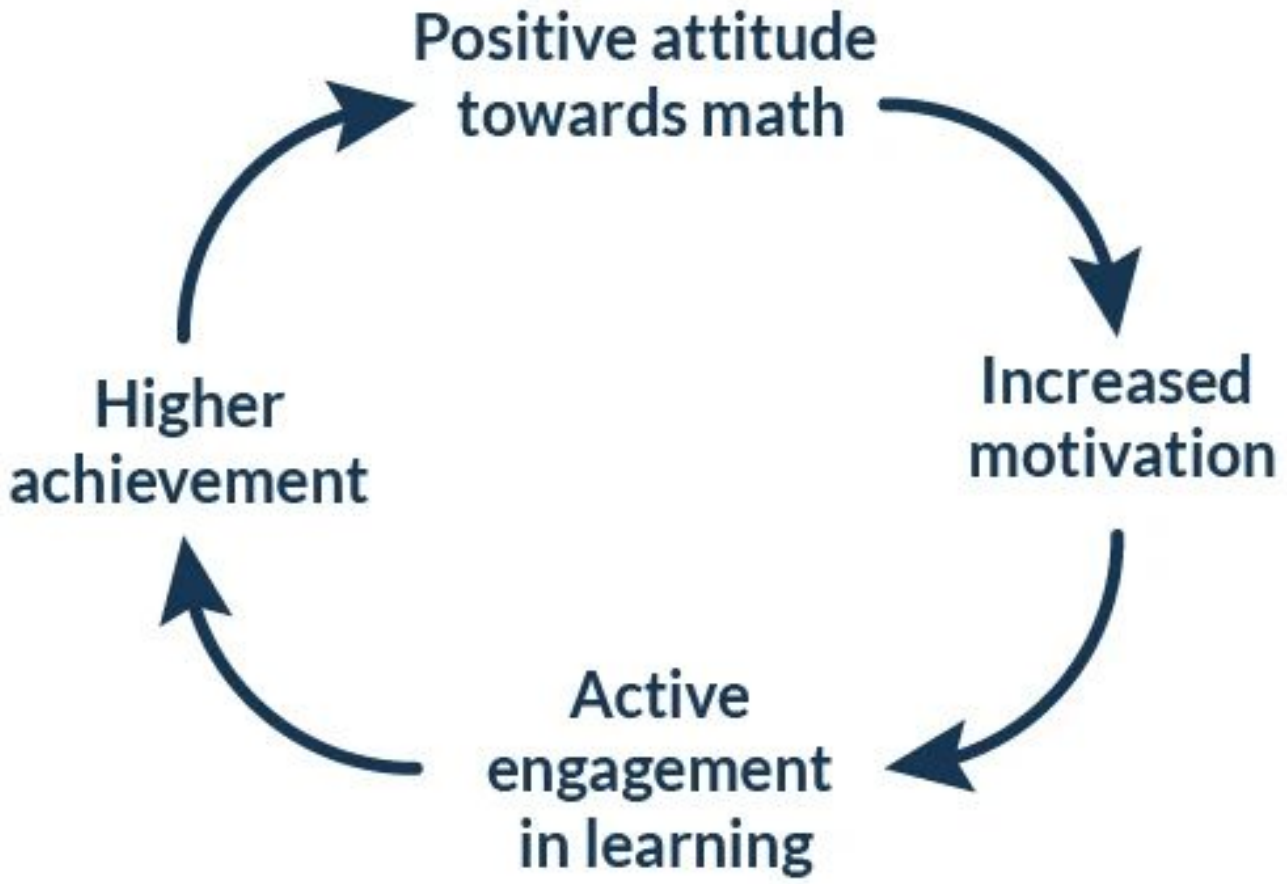
Maths at Rudston

Throughout Rudston, we encourage our children to view mathematics as a related subject that is very relevant to the world around them - not just within a classroom.

We ensure that our children understand the importance of mathematics in their everyday lives and realise the embedded mathematical links present within all other subjects.

Our mathematical curriculum aims to instil a lifelong passion for reasoning and problem-solving in our children.

We want pupils at Rudston to enjoy maths. We want pupils at Rudston to see that, if they work hard, they can solve challenging problems, and we want pupils to see the value in everyday mathematics.


Positive attitude towards math
Increased motivation
Active engagement in learning
Higher achievement

Fixed vs Growth Mindset

- We believe that everyone can get better at maths...when they put in the effort and work at it.
- Do not praise children for being clever when they succeed at something, but instead should praise them for working hard.
- Children learn to associate achievement with effort (which is something they can influence themselves – by working hard!)
- Not ‘cleverness’ (a trait perceived as absolute and that they cannot change).

A Conversation between Patrick (aged 4) and Mark (professor in teaching of mathematics):

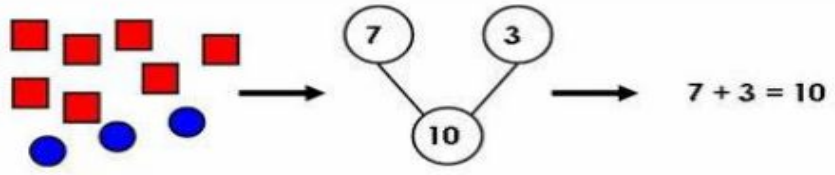
- Mark: What is four and one more?
- Patrick: Six
- Mark: What is four giraffes and one more?
- Patrick: Five giraffes
- Mark: What is four elephants and one more?
- Patrick: Five elephants
- Mark: What is four and one more?
- Patrick (looks him in the eye): Six.

Maths in Key Stage 1

The curriculum is designed so that pupils explore mathematical ideas in depth.

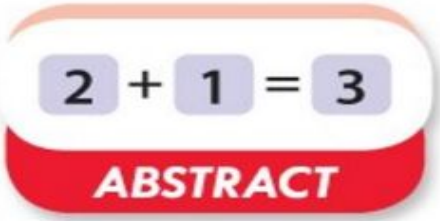
- Number – number and place value
- Number – addition and subtraction
- Number – Multiplication and division
- Number – fractions
- Measurement
- Geometry: properties of shape
- Geometry – position and direction
- Statistics (Year 2 only)

Maths approaches across the school



Concrete is the 'doing' stage, using concrete objects to solve problems. It brings concepts to life by allowing children to handle physical objects themselves.

Pictorial is the 'seeing' stage, using representations of the objects involved in maths problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding, by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem.



Abstract is the 'symbolic' stage, where children are able to use abstract symbols to model and solve maths problems.

What does this look like through the year?

Minimum of four Maths lessons per week - Maths No Problem

Four stand alone ‘Mastering Number’ sessions.

Minimum of one cross curricular Maths lesson per half term

Themed days - NSPCC number day

Children move together i.e. same objective from National Curriculum.

Differentiation through scaffolding/resources used.

Visiting previous year topic for consolidation.

Basic Skills

Project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2.

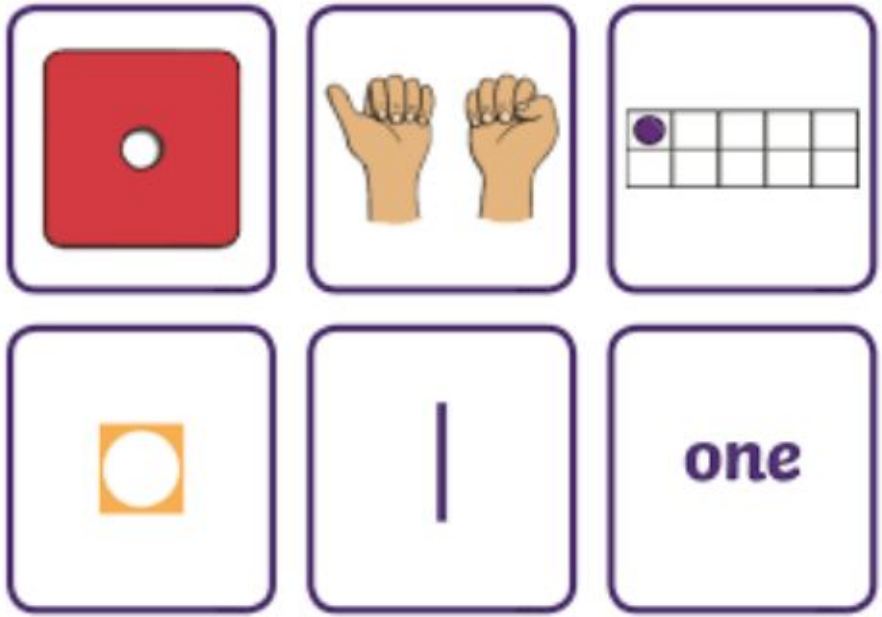
The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Following these sessions:

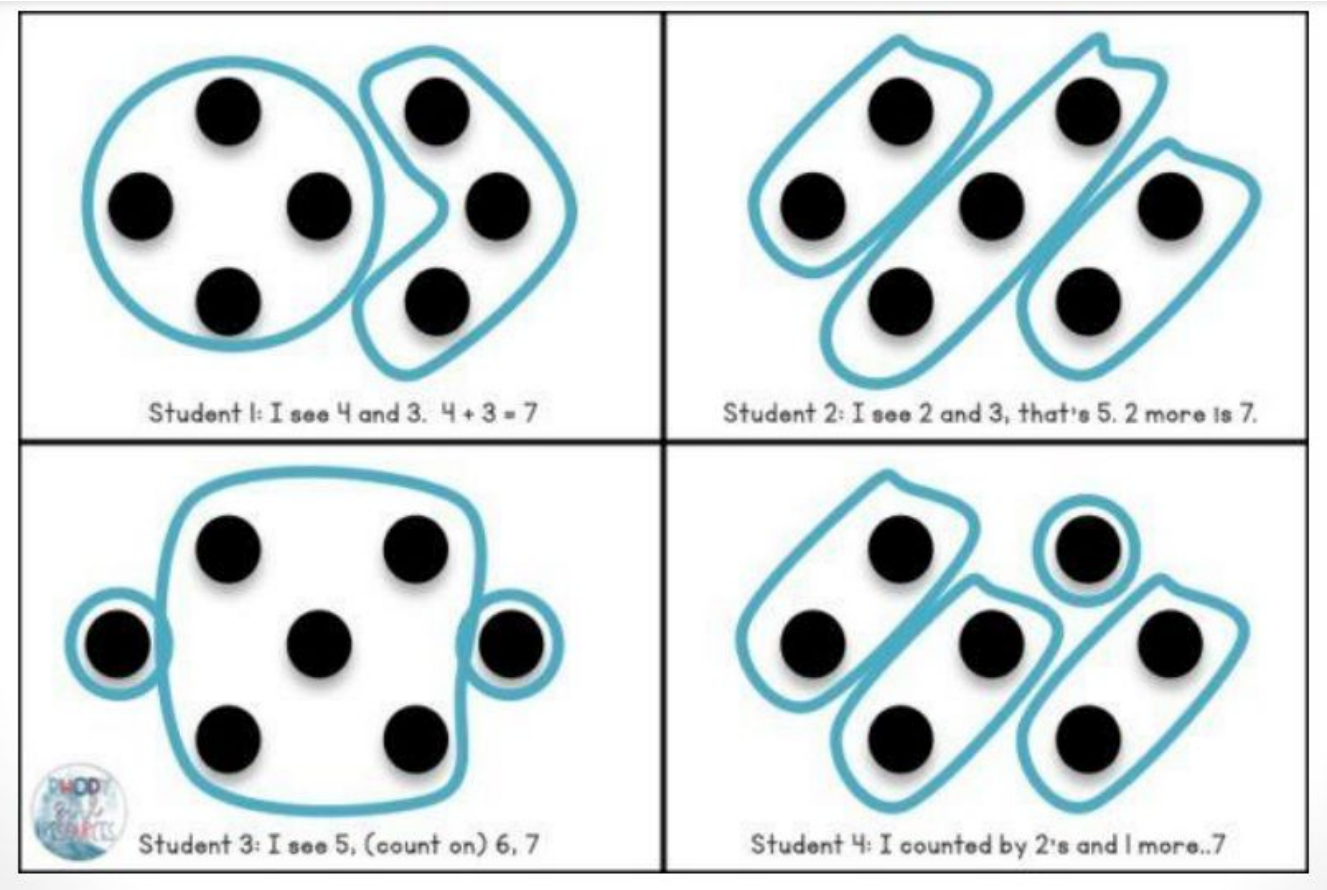
- the children will be able to clearly communicate their mathematical ideas
- they will build firm mathematical foundations for future learning
- teaching strategies focused on developing fluency in calculation and number sense for all children
- the use of appropriate manipulatives to support the teaching of mathematical structures
- https://www.ncetm.org.uk/maths-hubs-projects/mastering-number/

Representing Number

- Dice
- Tally
- Ten Frame
- Number Cards
- Numicon
- Fingers
- Real world - e,g road signs, door numbers, buses

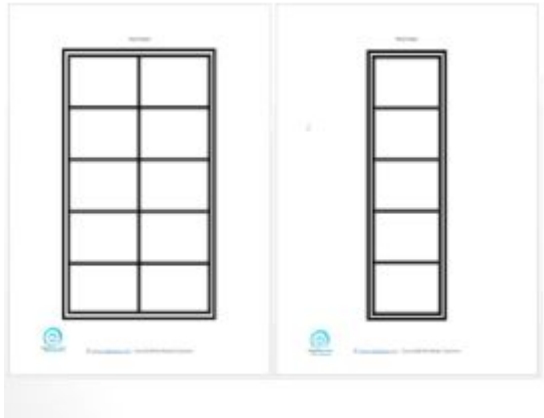


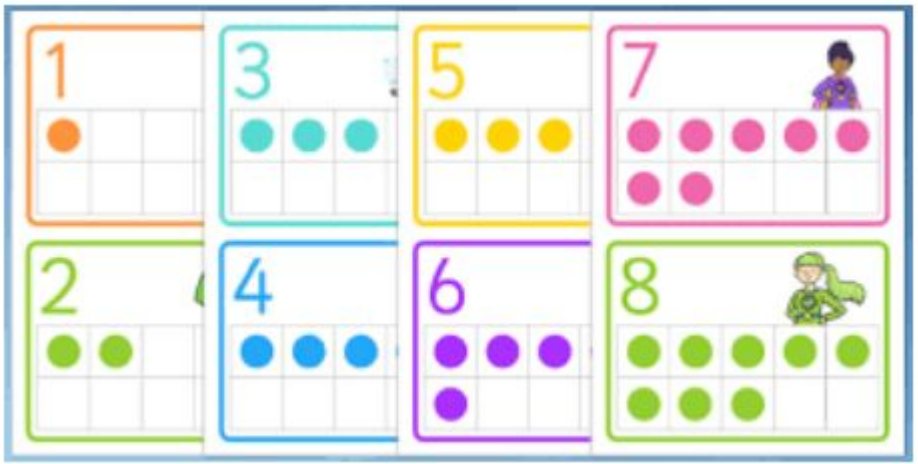
Subitizing


Student 1: I see 4 and 3. 4 + 3 = 7
Student 2: I see 2 and 3, that's 5. 2 more is 7.
Student 3: I see 5, (count on) 6, 7
Student 4: I counted by 2's and 1 more..7

Number Sense

5 frames and 10 frames are excellent ways to help your children build their number sense. By placing numbers in a 5 or 10 frame they can start to see what numbers look like. They start to understand that when I place 3 teddies on the 5 frame there are 2 spaces missing. That then helps children to make the connection that 3+2=5 and 5-2=3.





Sentence Stems

It’s very important that children can speak about their maths understanding.

- ‘Yes that’s right you have **fewer** than me.’
- ‘Put on your ‘**pair’** of socks.’
- ‘There is **1 ten** and **6 ones**. The **total is 16**.’
- ‘If I add **1 more** than there will be 6 cakes.’

Progress Paths

https://drive.google.com/drive/folders/15Kp7TnKangD-NsnS3KX1PKGk_cQModSQ?usp=share_link

Maths no problem - What is it? Why?

Singapore has become a “laboratory of maths teaching” by incorporating established international research into a highly effective teaching approach. With its emphasis on teaching pupils to solve problems, Singapore maths teaching is the envy of the world.

- Singapore consistently top the international benchmarking studies for maths teaching
- A highly effective approach to teaching maths based on research and evidence
- Builds students’ mathematical fluency without the need for rote learning
- Introduces new concepts using Bruner’s Concrete Pictorial Abstract (CPA) approach
- Pupils learn to think mathematically as opposed to reciting formulas they don’t understand
- Teaches mental strategies to solve problems such as drawing a bar model

Maths No Problem Lesson

All children are introduced to the mathematical language they will be using in the lesson. This supports the children when explaining their reasoning to the class.

Here is an example from a year 1 lesson. The objective of the lesson is to solve a subtraction sentence by counting back.

It is important pupils are able to understand and use the following mathematical terms and phrases in this lesson:

- How many are left?
- count back, counting backwards
- number story
- number sentence
- minus
- subtract
- equals

Sentence Starters

- There are ___ _____ altogether/in total. Sam takes ___ _____. ___ minus ___ equals ___. There are ___ _____ left.

Year 2

It is important pupils are able to understand and use the following mathematical terms and phrases in this lesson:

- counting back
- taking away
- ones
- tens
- subtract
- subtract the ones
- subtract the tens
- minus
- equals
- number line
- number bond, number bond diagram
- breaking up/partitioning a number
- column method
- subtraction equation
- left

Sentence starters

- 7 ones – 5 ones = ___
- 3 tens – 0 tens = ___
- ___ screws are left.

Maths No Problem Lesson

A question is asked for the whole class to think about and explore. This is an opportunity for the children to link prior learning strategies and to explore new strategies.

Explore

There are 7 carrots altogether.
Sam takes 3 carrots.
How many carrots are left in the bag?

How many carrots does Sam have to begin with?

How many does Sam take away?

There are ☐ carrots in total. Sam takes ☐ carrots.

☐ - ☐ = ☐

What ways do we know already that can help us solve this question?

Year 2

Explore

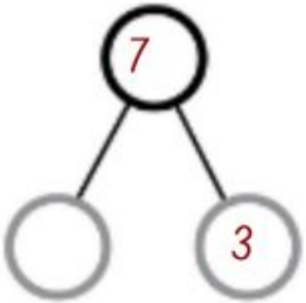
Sam's mum uses 5 screws to put up some pictures on the kitchen wall.
How many screws does she have left?

Maths No Problem Lesson

What ways do we know already that can help us solve this question?

Explore

There are 7 carrots altogether.
Sam takes 3 carrots.
How many carrots are left in the bag?



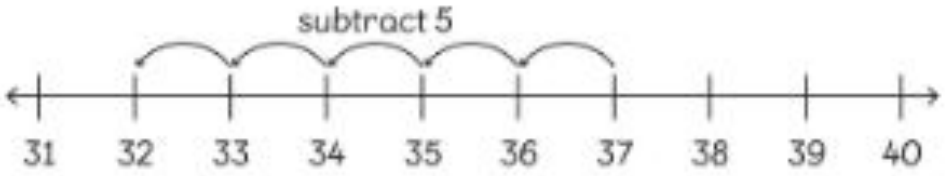
Year 2

Master

$37 - 5 =$ ☐

Start counting back from 37.

1



$37 - 5 = 32$

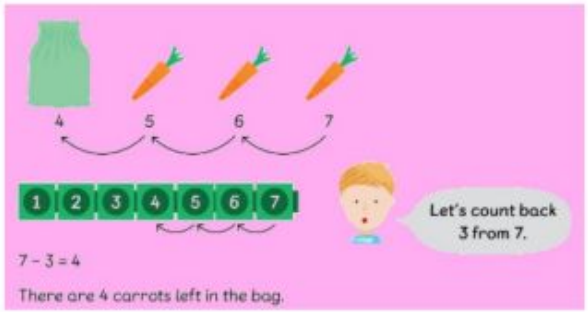
Maths No Problem Lesson

7 - 3 =

Can we help Sam count BACK 3 from 7?

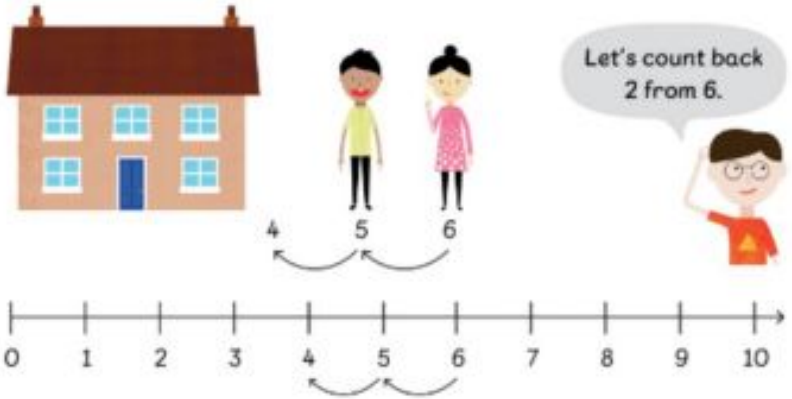
Let's do this together!

There are ☐ carrots altogether. Sam takes ☐ away.
☐ minus ☐ equals ☐. There are ☐ carrots left.



Maths No Problem Lesson

6 friends are playing together.
2 of the friends are playing outside.
How many friends are playing in the house?



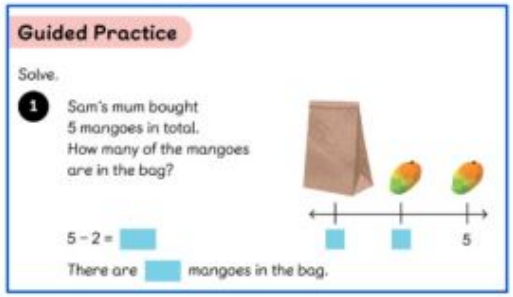
6 − 2 = 4

There are ____ friends playing in the house.

The children are then given the opportunity to practise the new method as a class or with a partner.

Children are provided with number lines to support this learning.

Maths No Problem Lesson



Guided Practice

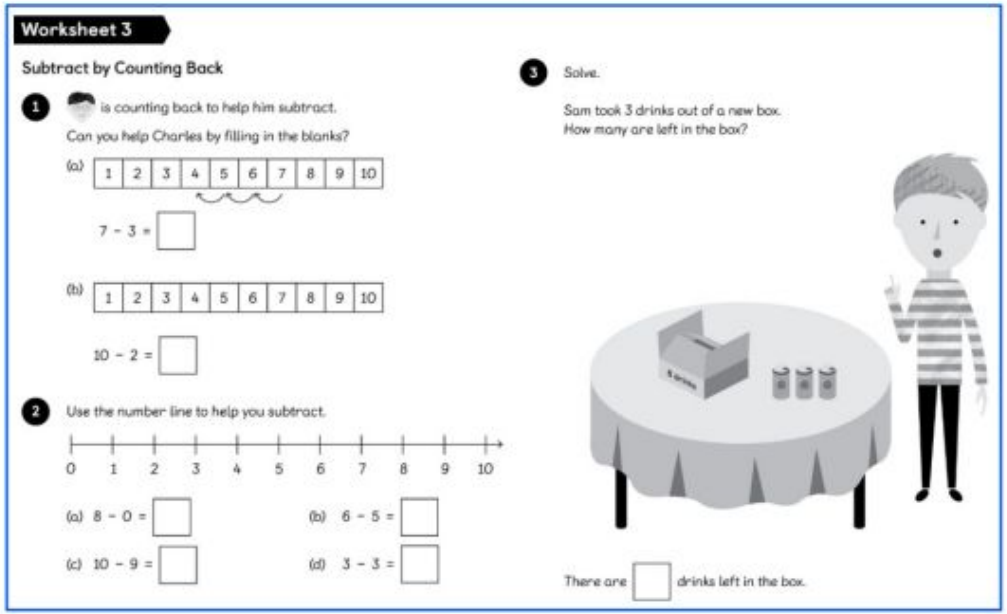
Solve.

1. Sam's mum bought 5 mangoes in total. How many of the mangoes are in the bag?

$5 - 2 =$ ☐

There are ☐ mangoes in the bag.

Guided practice provides the children to work in pairs and for the adults to assess who will need more support.



Worksheet 3

Subtract by Counting Back

1. is counting back to help him subtract.

Can you help Charles by filling in the blanks?

(a)

1	2	3	4	5	6	7	8	9	10

$7 - 3 =$ ☐

(b)

1	2	3	4	5	6	7	8	9	10

$10 - 2 =$ ☐

2. Use the number line to help you subtract.

0 1 2 3 4 5 6 7 8 9 10

(a) $8 - 0 =$ ☐ (b) $6 - 5 =$ ☐

(c) $10 - 9 =$ ☐ (d) $3 - 3 =$ ☐

3. Solve.

Sam took 3 drinks out of a new box.
How many are left in the box?

There are ☐ drinks left in the box.

Worksheets are independent.

Year 2

Guided Practice

Subtract.

1

(a) 37 − 3 = ☐ (b) 38 − 7 = ☐

2 (a) 48 − 5 = ☐ (b) 79 − 7 = ☐

3 (a)

	tens	ones
	5	6
−		4
	☐	☐

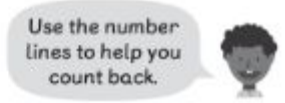
(b)

	tens	ones
	9	8
−		7
	☐	☐

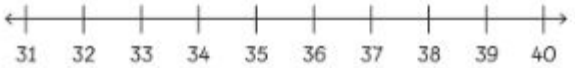
Worksheet 7

Simple Subtracting

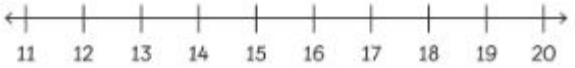
1 Can you help  subtract by filling in the blanks?



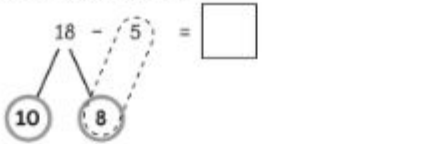
(a) 35 − 3 = ☐



(b) 19 − 5 = ☐



2 (a) Subtract 5 from 18.



At home - all maths is good maths

The NCETM is amazing! It has everything you could possibly want. • I'll show you an example of a Reception activity.

- https://www.ncetm.org.uk/classroom-resources/ey-numberblocks-at-home/

• White Rose is also a brilliant website. That has free home learning videos for Reception aged children.

• https://whiterosemaths.com/homelearning

Homework

https://play.edshed.com/en-gb/login

https://play.numbots.com/?#/game

Questions and feedback