Year 1 Maths Workshop

Building strong foundations in number

Tuesday 3rd November 2026



Roe Green Infant and Nursery School

Aims of Our Workshop

1. Share core teaching strategies used in our Year 1 classrooms.
2. Explore concrete apparatus such as ten-frames and part-whole models.
3. Build confidence across shapes, measurements, capacity and time.
4. Discover simple, fun maths games using ordinary household objects.

All these slides will be on our school website, so you do not need to write anything down.

Spot the maths in your day!

When you set the table, sort the laundry, or walk to the park, your child is already thinking like a mathematician.

Maths is not just worksheets. In Year 1, real objects and curious questions build lifelong confidence.



Key words we use in Year 1



Part-whole

Smaller parts combine to make the whole number.



Subitising

Recognising a small amount at a glance without counting.



3D shapes

Solid shapes that take up three-dimensional space.



Capacity

The total amount a container can hold when full.

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Maths may look different from your school days

"That is not how we do it!" Sound familiar? Here is why, and what to do.

You may have learnt ...

- A method to follow, step by step
- To count everything from 1
- To get the answer, without explaining it

Your child is learning ...

- Why it works, with objects and pictures first
- To count on from the bigger number
- More than one way, and to explain their thinking

When your child says "That is not how we do it!"

1. **Ask them to show you**
   Let them be the teacher, using objects or a drawing.

2. **Use their words**
   Parts and whole; tens and ones; count on; equal groups.

3. **Share yours afterwards**
   Call it "another way", not "the right way".

Please avoid saying "I was never good at maths". Children pick up our attitudes. "Let us work it out together" is perfect.

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Build it, Draw it, Write it, Say it

This is how every new idea is taught at Roe Green, from Nursery to Year 2.

Build it
(Concrete)

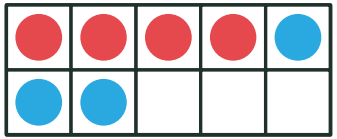
Use real objects: cubes, counters, base 10.



4 red cubes and 3 blue cubes

Draw it
(Pictorial)

Draw what you built: dots, lines, models.



Dots on a ten frame

Write it
(Abstract)

Write it with numbers and symbols.

4 + 3 = 7

Say it
(Explain it)

Talk it through, at every stage.

"4 add 3 is equal to 7."

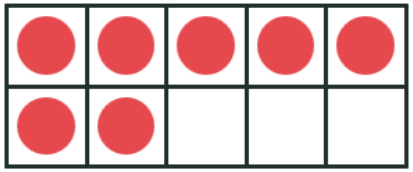
"The parts are 4 and 3. The whole is 7."

Going back to objects is not a step backwards. It is how real understanding is built, even for confident children.

Tools we use in Year 1, and what to use at home

You do not need to buy anything. Everyday objects work just as well.

Ten frame



At home: An egg box with 10 spaces

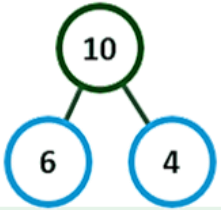
Cubes



15 is 1 ten and 5 ones

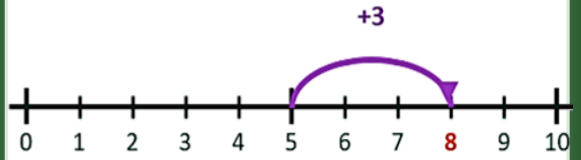
At home: Lego bricks or pasta

Part-whole model



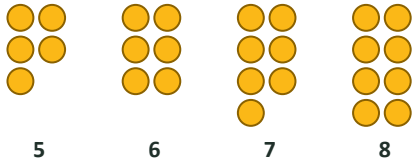
At home: Circles on paper and buttons

Number line



At home: Chalk on the path; numbered steps

Number patterns



At home: Dice, dominoes and playing cards

Hundred square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

At home: Print one for the fridge

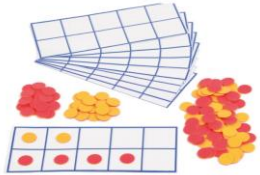
Resources we use in school

Your child will use all of these in Year 1. Ask them to tell you about them



Cubes

Building numbers and towers of 10



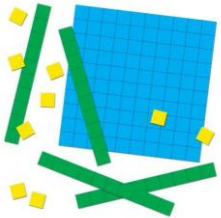
Ten frames and counters

Showing numbers to 10 and 20



Numicon

Seeing number bonds and patterns



Base 10 (Dienes)

Tens and ones up to 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

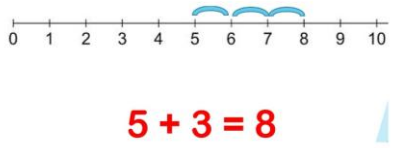
Hundred square

Counting, patterns and adding 10



Dice

Seeing amounts without counting



Number lines

Counting on and counting back

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Seeing amounts instantly: subitising

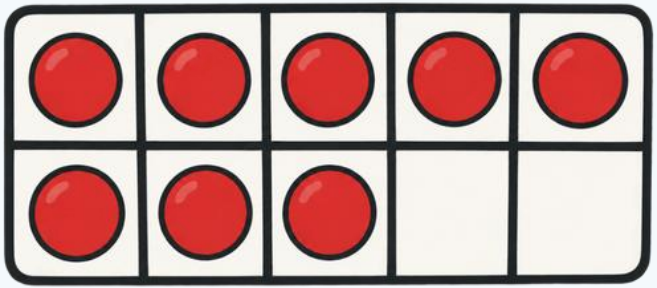


Subitising means spotting how many items are in a group without counting one by one.

- Standard dice and dominoes train the brain to spot groups.
- Children see five as 'four corners and one in the middle'.

This visual skill stops children getting stuck on finger counting. This skill gives children speed and confidence with number bonds to 10.

Spot the amount together



Look at this ten-frame. How can you tell how many dots there are without counting them one by one?

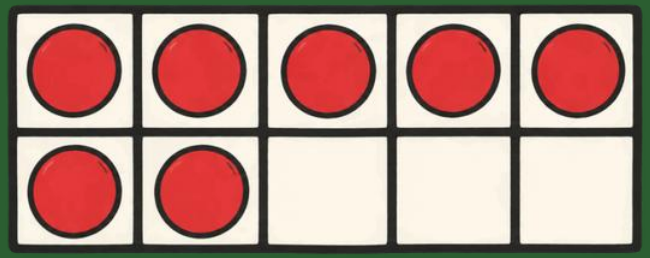
Spot the amount together

You might have said...

Top row 5, bottom row 3, total 8

Ten spaces minus 2 empty leaves 8

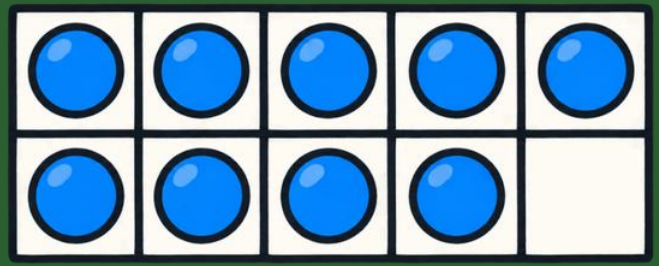
Reading the ten-frame structure



7

Five and two more

Full top row of 5, plus 2 below gives 7.

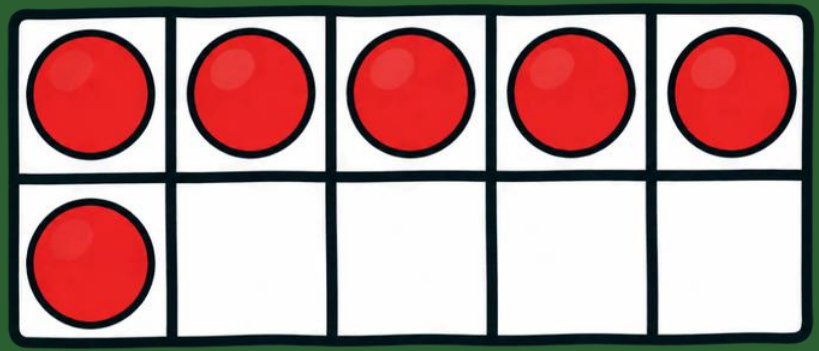


9

One less than ten

Only one empty box remains, so it must be 9.

Ten-Frames & Number Bonds



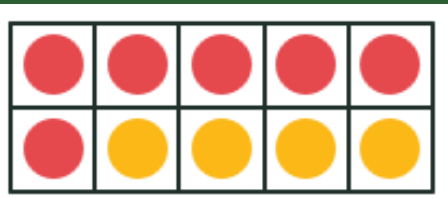
A ten-frame organises ten spaces in two rows of five. It allows children to see quantities immediately.

When six spaces are filled with red counters, pupils instantly see that four spaces are empty, proving $6 + 4 = 10$.

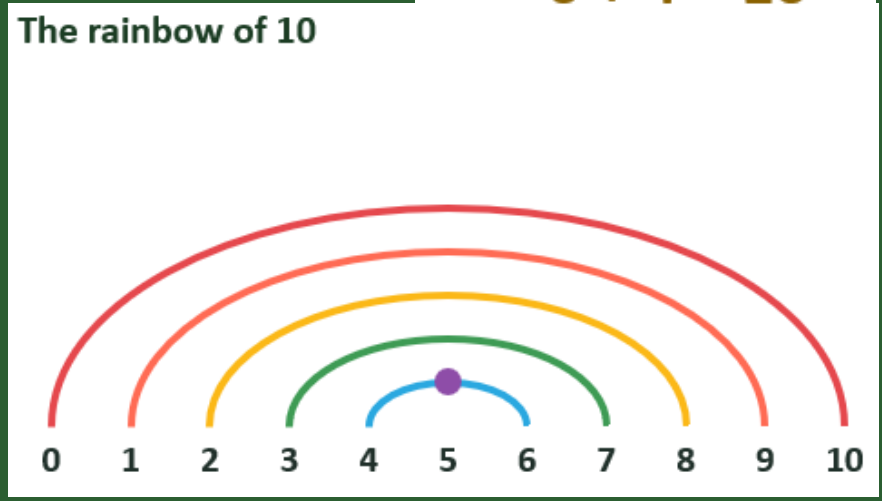
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Number bonds to 10 and 20

Number bonds are pairs of numbers that join together to make a target whole, such as $6 + 4 = 10$ or $16 + 4 = 20$.
When pupils know that 6 and 4 bond to 10, they can immediately solve $10 - 4 = 6$ and $10 - 6 = 4$.



$6 + 4 = 10$



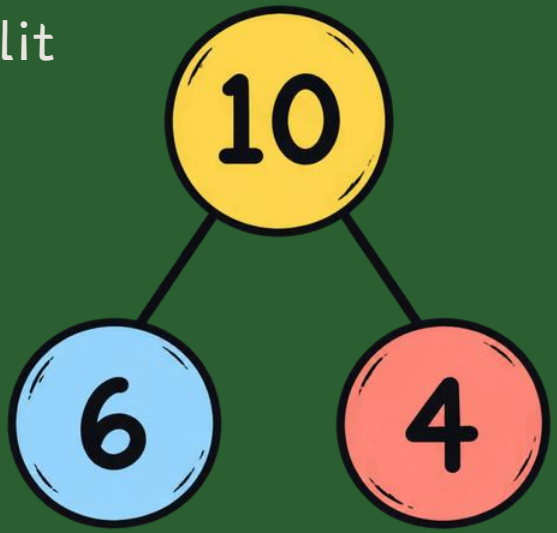
Home game: Hide & Seek

Put 10 pasta shells under a bowl. Pull out 3. Ask: 'How many are still hiding?'

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The part-whole model

The part-whole model visualises how numbers split into components and recombine into a whole.



- The top circle is the **whole**.
- The bottom circles are the **parts**.
- If the whole is 10 and one part is 6, the missing part is 4.

Remember

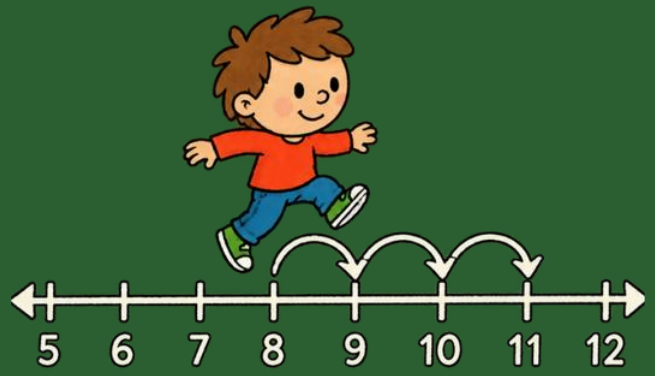
Part + Part = Whole, and

Whole – Part = Part.

Adding: counting on from the bigger number

3+8=

1. Instead of counting everything starting at 1, **find the larger number.** For $3+8$, identify 8 as the greater number.
2. **Lock it in your head.** Start counting forward directly from 8.
3. **Jump on three steps.** Say: '9, 10, 11'. The sum is 11.

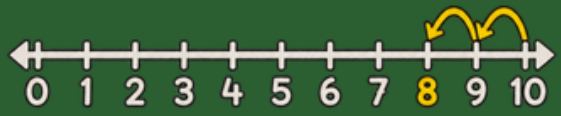


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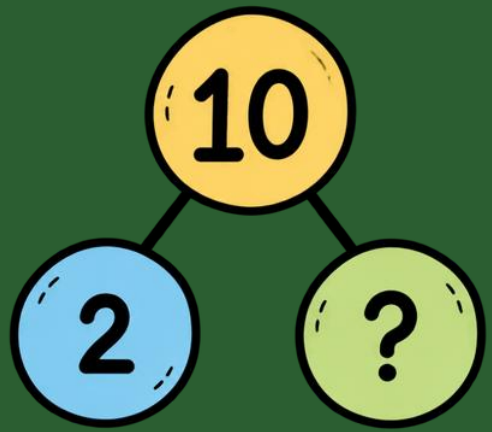
Subtracting: three helpful ways



7 - 3 = 4



10-2=8



Take away

Physically remove items: 'I had 7 grapes and ate 3. Now 4 are left.'

Count back

Hop backwards along a track: $10 - 2 = 8$.

Missing part

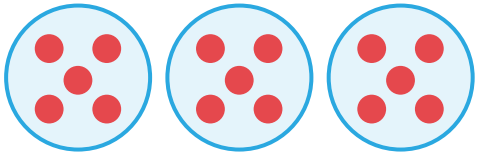
Find what is missing: 'The whole is 10. One part is 2. What is the other part?'

Groups and sharing: the first steps to times tables

In Year 1, children count in 2s, 5s and 10s, make equal groups and share fairly

2, 4, 6, 8, 10 ... **5, 10, 15, 20 ...** **10, 20, 30, 40 ...**

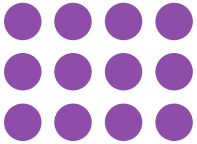
Equal groups



5 + 5 + 5 = 15

"3 bears have 5 apples each. How many apples altogether?"

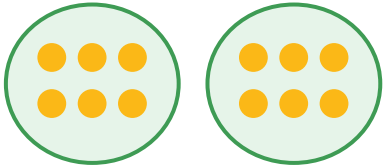
Arrays



3 rows of 4 = 12

"How many rows? How many in each row?"

Sharing fairly



12 shared into 2 groups is 6

"Did everyone get the same?"

At home: count socks in 2s, fingers in 5s and 10p coins in 10s. Share snacks fairly between toys.

Questions to ask your child

Talking is the "Say it" part of maths. These questions come from our calculation policy

- What is the whole? What are the parts?
- How do you know?
- Will the answer be bigger or smaller?
- Can you show me with objects or a drawing?
- Should you count forwards or backwards?
- Is there another way?

Words to use

add | plus | altogether | total | take away | subtract | difference | more than | fewer than | equal to | is the same as | part | whole | double | half | equal groups | share



Exploring 2D and 3D shapes

Year 1 children explore how flat 2D shapes form the faces of solid 3D everyday objects.

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Recognising flat 2D shapes



circle

1 curved side and 0 vertices (corners).



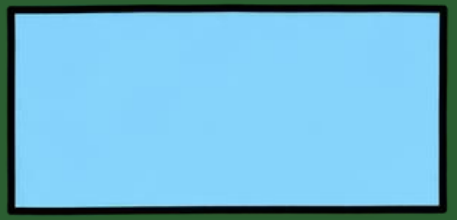
triangle

3 straight sides and 3 sharp vertices.



square

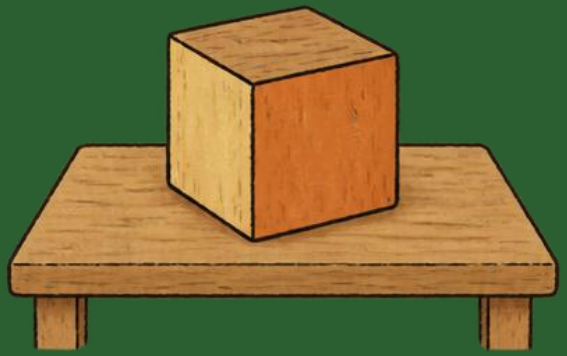
4 equal straight sides and 4 square corners.



rectangle

4 straight sides with opposite sides equal.

Solid 3D Shapes Around Us



Cube & Cuboid

Dice, cereal boxes and book parcels have flat faces.



Cylinder

Baked bean cans and cardboard kitchen roll tubes roll easily.



Sphere & Cone

Oranges, tennis balls also roll and even ice cream cones roll in fun ways.

Match Household 3D Shapes

Match the words with the pictures

- Cube
- Cylinder
- Sphere
- Cone

A



B



C



D



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Match Household 3D Shapes

Match the words with the pictures

Cube B

Cylinder C

Sphere A

Cone D

A



B



C



D



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Measurement in Year 1

Children start by comparing lengths, heights, weights and capacities using comparative vocabulary before reading formal rulers.

Length and height comparisons

In Year 1, children compare objects directly before reading rulers: **long**, **longer**, **short**, **shorter**, **tall**, and **taller**.

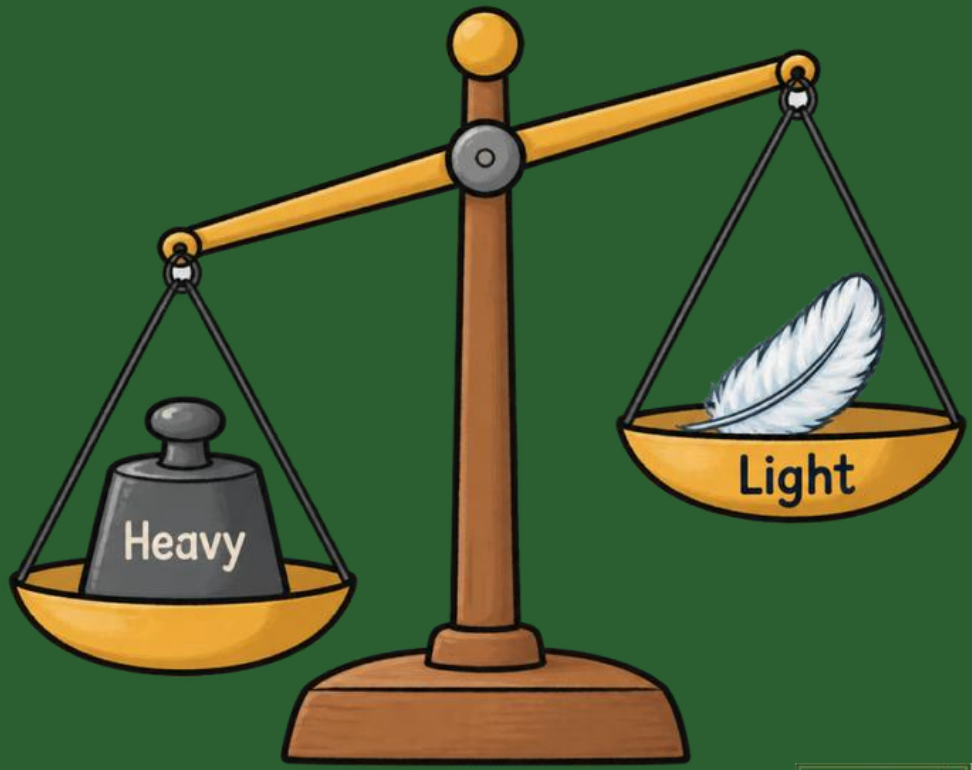
- A key learning moment is ensuring both items start at the very same baseline/point.
- We can also count how many paperclips or cubes long an object is. E.g. 6 cubes long



Common mistake
Children often judge the longer object without lining up the bottom ends evenly.

Weight: heavy, heavier, lighter

We begin by holding items in our hands: 'hefting' to feel which pushes down more.
We then check with balance scales. The heavier side tilts down; the lighter side rises up.
Children discover that a big item (like a sponge) can actually be lighter than a small stone!



Try Measuring at Home

With your child, choose two household objects to compare. Predict which is longer, shorter, heavier or lighter, then check by lining them up or carefully lifting them one at a time.

Capacity: empty, half full, full



Empty

Contains no liquid in the glass at all.



Half full

Filled to exactly half of its total capacity.



Nearly full

Almost at the top rim, with just a tiny space left.



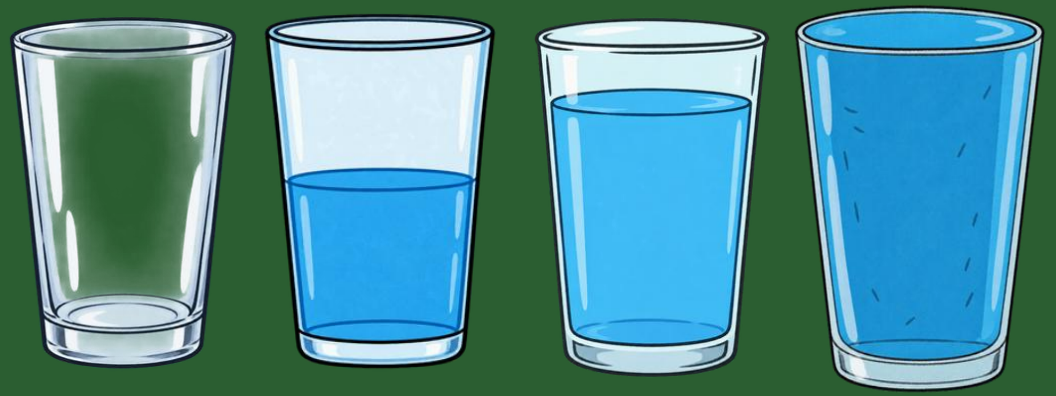
Full

Cannot hold any more without overflowing.

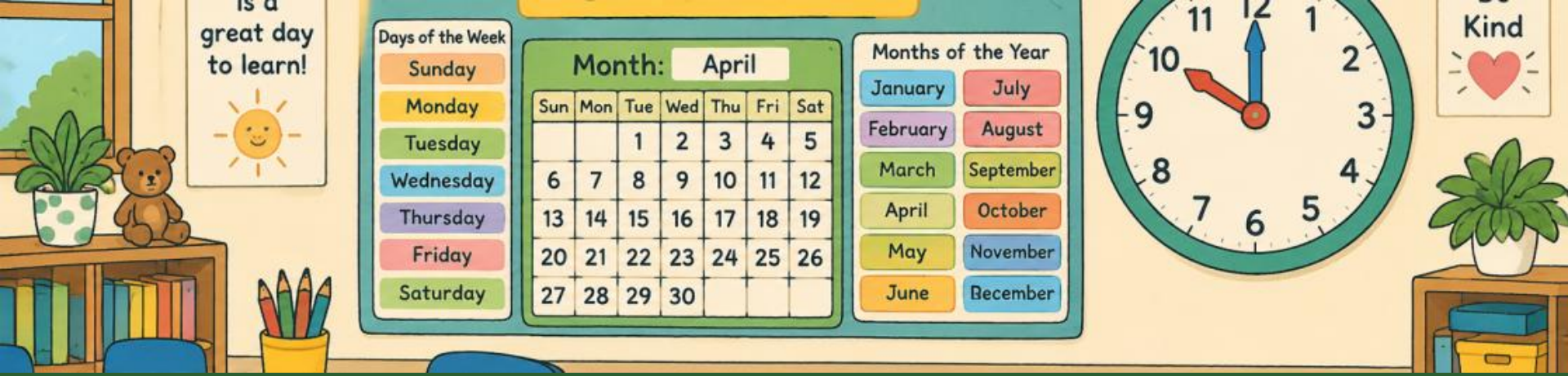
Order the glasses by capacity

Order these glasses from the least full to the most full:

1. Empty glass
2. Half full glass
3. Nearly full glass
4. Full glass



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Time: days, months and clocks

Understanding the passage of time starts with ordering daily routines, seasons, and reading the clock hands.

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Days and Months of the Year

7 Days of the Week

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday.

Practise words like 'yesterday was…', 'today is…' and 'tomorrow will be…'.

12 Months of the Year

January to December linked with four changing seasons.

Talk about family birthday months and holidays on home calendars.

Months of the year and seasons



Winter

December, January, February.

Cold days and New Year.



Spring

March, April, May.

Buds, lambs, and warming weather.



Summer

June, July, August.

Long sunny days and school holidays.



Autumn

September, October, November.

Starting Year 1 and falling leaves.

Telling time: o'clock and half past



3 o'clock

Minute hand points straight to 12; hour hand points to 3.



Half past 3

Minute hand points to 6; hour hand is halfway past 3.



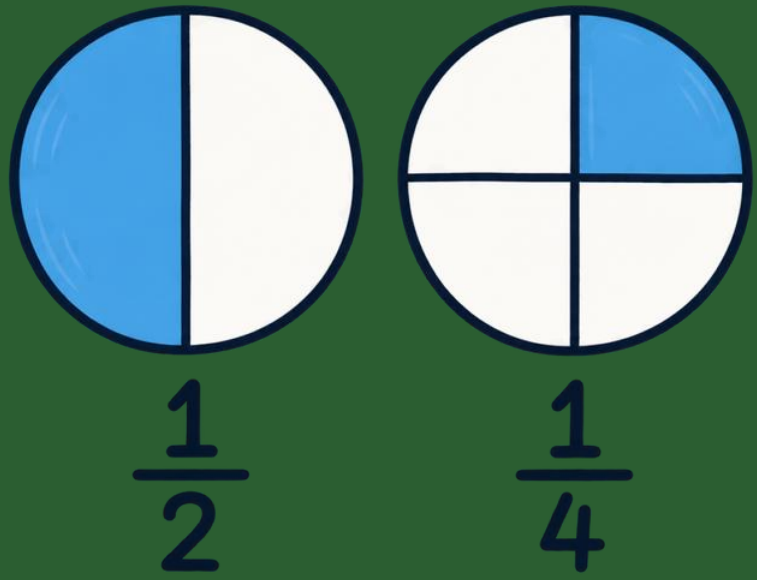
Quarter past 3

Minute hand travelled one quarter of the circle to 3.

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Fractions of shapes: equal parts

In Year 1, children learn that a fraction is an **equal part** of a whole.
To find one half ($\frac{1}{2}$), we split a shape into 2 equal parts.
To find one quarter ($\frac{1}{4}$), we fold or cut into 4 equal parts.



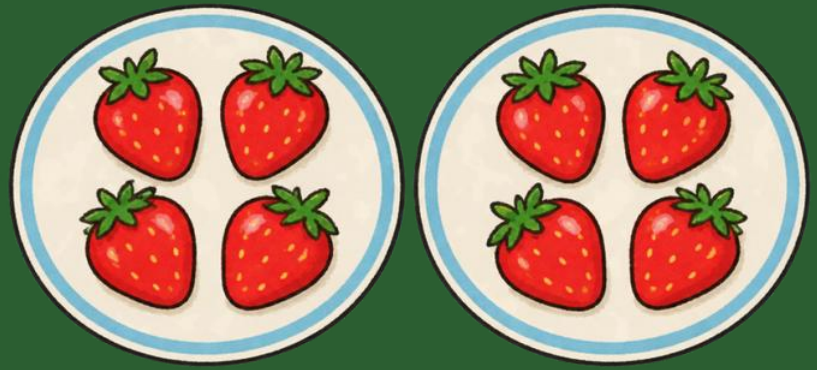
Remember
If the parts are not equal in size, it is not a half or quarter!

Fractions of an amount: sharing

Finding a fraction of a quantity connects directly to fair sharing.

To find $\frac{1}{2}$ of 8 strawberries, we share them equally between 2 plates: 4 on each plate.

To find $\frac{1}{4}$ of 8, we share equally into 4 groups: 2 in each group.



Practical home maths activities

1

Pantry shape hunt

Find cubes, cylinders, and spheres in the cupboards.

2

Shoe measure

Compare foot sizes or measure a rug in shoe lengths.

3

Bath capacity

Predict how many small yogurt pots fill one jug.

4

Snack sharing

Share grapes or carrot sticks fairly in halves or quarters.

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Objects to count at home

Anything small can be counted, grouped, shared or made into patterns. Collect a few in a box!



Buttons



Pasta



Conkers



Lego



Beads



Socks (count in 2s)



Pine cones



Dried beans



Pom-poms



Lolly sticks



Twigs



Leaves



Small toys



Counters

Use them to: count, make groups of 2, 5 or 10, share fairly, make patterns, compare "more" and "fewer", and act out number stories.

Games to play at home

Five minutes, a few times a week.

ACTIVITY

Secret number

Think of a number. Give a clue: "It is one more than 6." Can your child guess? Then swap.

You need: nothing!

Race to 20

Take turns to roll a dice and move a counter along a 0 to 20 number line. "Where will you land?"

You need: a dice and a counter

Make 10 snap

Turn over two cards. If they make 10, shout "Snap!" Use cards 1 to 9 only.

You need: a pack of cards

One more, one less

Number sticky notes 1 to 20 on the wall. Point to one: "What is one more? One less?"

You need: sticky notes

Maths is everywhere: talk about it!

door numbers · counting stairs · baking and weighing · setting the table · board games with dice · shopping · pairs of socks · bus numbers

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Useful websites and apps

All free unless stated. Short and often is best: ten minutes is plenty.

Numberblocks

CBeebies series made with maths teaching experts. Try: The Numberblocks Express (bonds to 5) and Fruit Salad (splitting numbers).

CBeebies and BBC iPlayer

1-Minute Maths

Free White Rose Maths app. Short tasks on subitising, adding and subtracting.

App Store and Google Play

Topmarks

Maths games sorted by age, such as Hit the Button and Coconut Ordering.

topmarks.co.uk

Busy Things

Our school subscription. Log in through MyUSO.

Login details from your class teacher

Toy Theater

Free virtual ten frames, number lines and counters.

toytheater.com

ICT Games

Simple games for counting, ordering and number bonds.

ictgames.com

Looking ahead: from Year 1 to Year 2

Everything your child learns this year is a building block for Year 2.

	Year 1: this year	Year 2: next year
Place value	**Count to 100. See teen numbers as 1 ten and some ones.**	Tens and ones to 100. Compare with < > =
Number facts	**Number bonds to 10 and 20**	Use facts to work out more: 3 + 7 = 10, so 30 + 70 = 100
Adding and subtracting	**Within 20: count on, count back, part-whole**	Two-digit numbers: tens and ones, number lines
Multiplying and dividing	**Equal groups, arrays and sharing. Count in 2s, 5s, 10s**	2, 5 and 10 times tables, using × ÷ and =
Fractions	**Halves and quarters**	Thirds, quarters and three quarters
Money and time	**Coins and notes. O'clock and half past**	£ and p, and change. Time to 5 minutes

Your Year 1 maths toolkit

Little and often is the secret. Try some of these every week.

- Flash dice and fingers: how many?
- Practise number bonds to 10, then 20.
- Count on from the bigger number.
- Tell first, then, now stories.
- Count in 2s, 5s and 10s.
- Ask "How do you know?"
- Play a maths game each week.
- Watch Numberblocks together.

Workshop reflection

Which simple strategy or everyday home idea will you try first with your child this week?

Any questions?

Thank you for coming, and for everything you do to help your child with maths.

You are always welcome to speak to your child's class teacher about their maths.

These slides are on our website: **rgreeninf.brent.sch.uk**

