Welcome to our Maths parent workshop. This evening we will...

- Find out what children learn in Maths in Foundation Stage and Key Stage 1.
- Discuss how we teach Maths and why.
- Look at some resources and models we use.
- Support you with ideas to help at home.

Our aims for your children

- Have a positive attitude towards maths.
- Recall and apply knowledge rapidly and accurately.
- Reason mathematically by justifying, making links to known facts, or providing proof using mathematical language.
- Be increasingly confident with mental calculations, developing and sharing their own flexible methods.
- Be resilient when something is challenging

We are all mathematicians!

Mastery in Mathematics

- **Puts numbers first:** confidence with numbers is the first step to competency in the curriculum as a whole.
- **Puts depth before breadth:** we reinforce knowledge again and again.
- **Encourages collaboration:** children progress as a group, supporting each other as they learn.
- **Focuses on fluency, reasoning and problem solving:** gives children the skills they need to become competent mathematicians.

Our aim for your children - Mastery in Mathematics

So before exploring numbers to 100, consider the following with numbers to 10:

3 + 2 = □	□ = 6 + 2	3 + □ = 4	□ + □ = 8	4 + 3 = 6 + □
9 – 3 = □	6 - □ = 2	5 = □ - 2	□ - □ = 7	5 – □ = 8 - □

Early Learning Goals – Foundation Stage

Number

- Have a deep understanding of numbers to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Early Learning Goals – Foundation Stage

Numerical Patterns

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity`.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally

The National Curriculum – from Year 1 onwards

Year 1

- Number - Number and Place Value
- Number - Addition and Subtraction
- Number - Multiplication and Division
- Number - Fractions
- Measurement
- Geometry - Properties of Shape
- Geometry - Position and Direction

In Year 2 the areas remain the same, with the addition of Statistics.

We use Mastering Number (from the NCETM) and the White Rose scheme of learning

- Each block of knowledge is broken down into a series of small learning steps. Together, these small steps cover all the curriculum content that your child needs to know.

- Brain science tells us that your child will remember more by learning maths in small, related chunks.

Our approach

Concrete representation (the 'doing' stage')

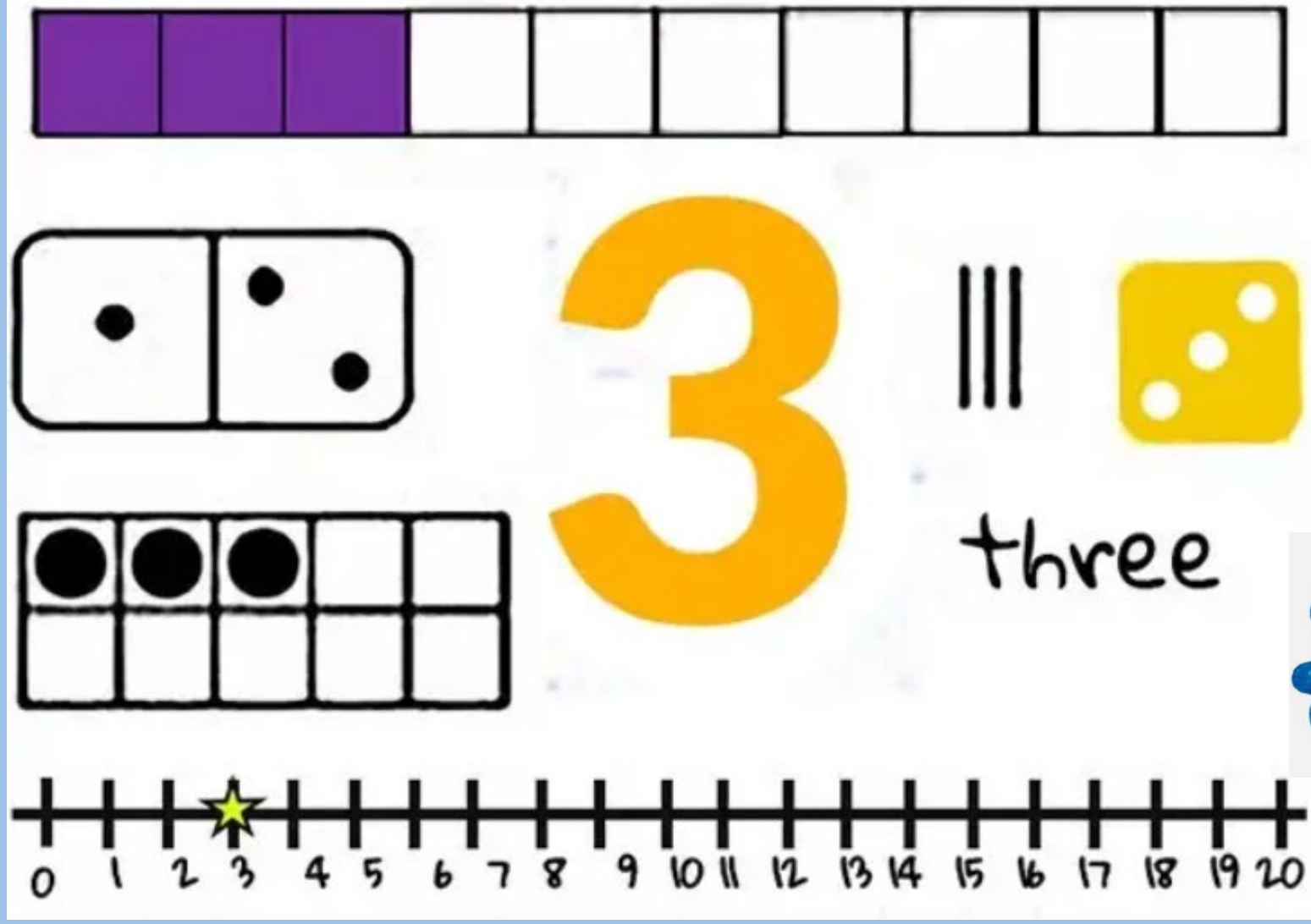
Pictorial representation (the 'seeing' stage)

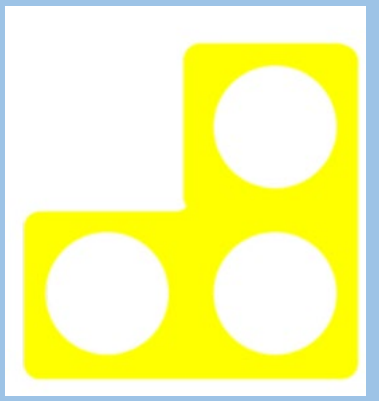
Abstract representation (the 'symbolic' stage)

Number sense - Counting, comparing and flexible thinking about number

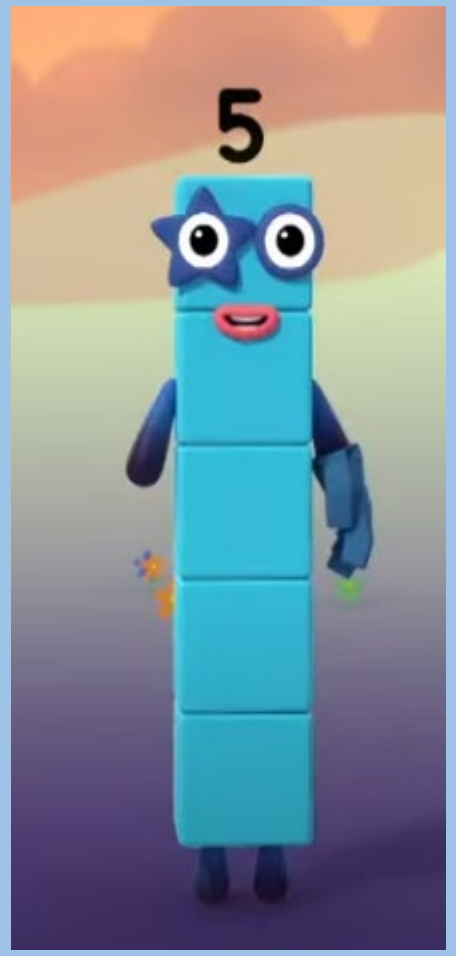
Can you each find a different way to represent the number 3 using something on your table?

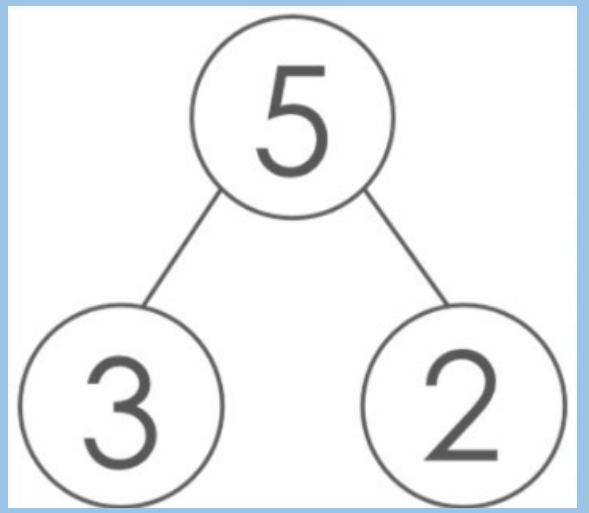
Number sense - Counting, comparing and flexible thinking about number



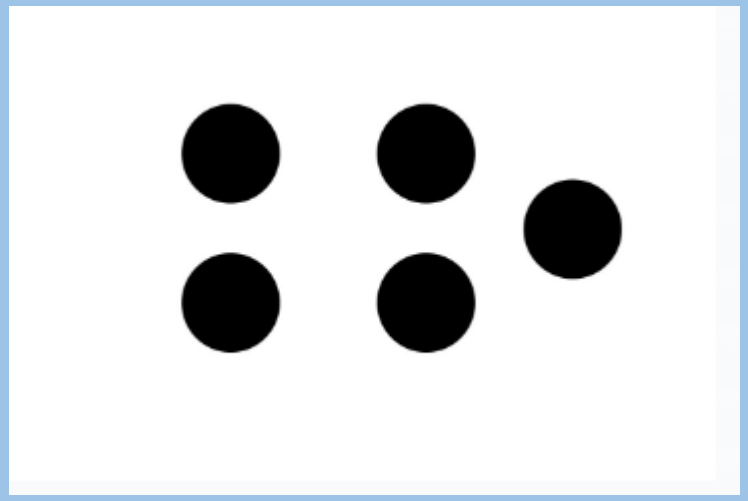


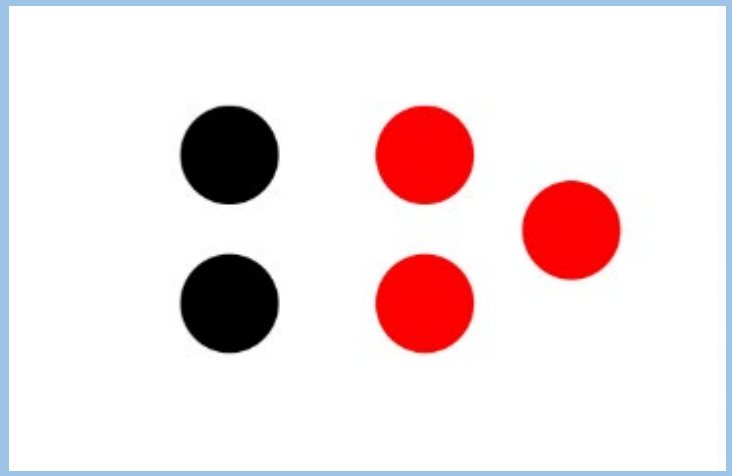
Mastering Number

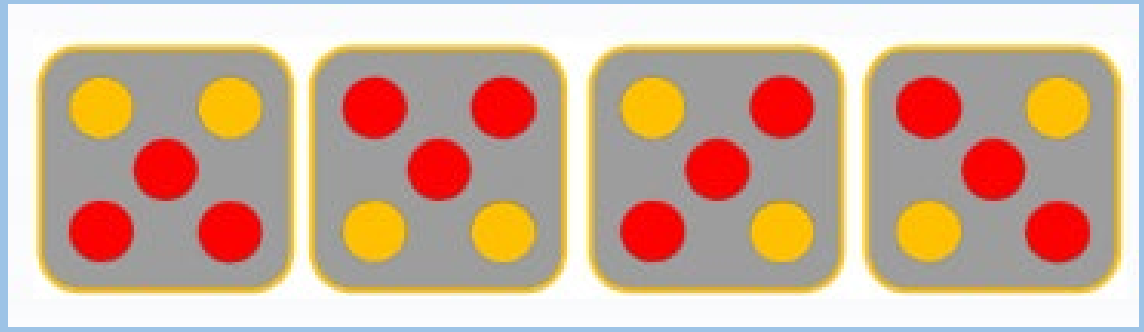




Mastering Number

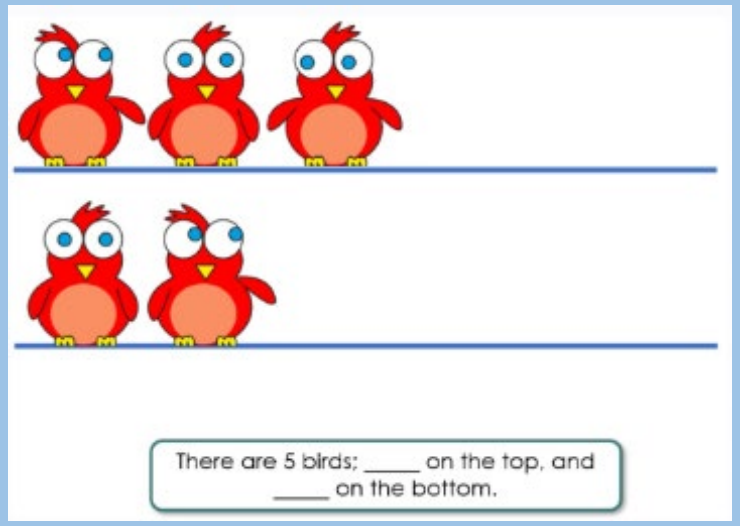






https://mathsbot.com/manipulatives/rekenrek

Mastering Number



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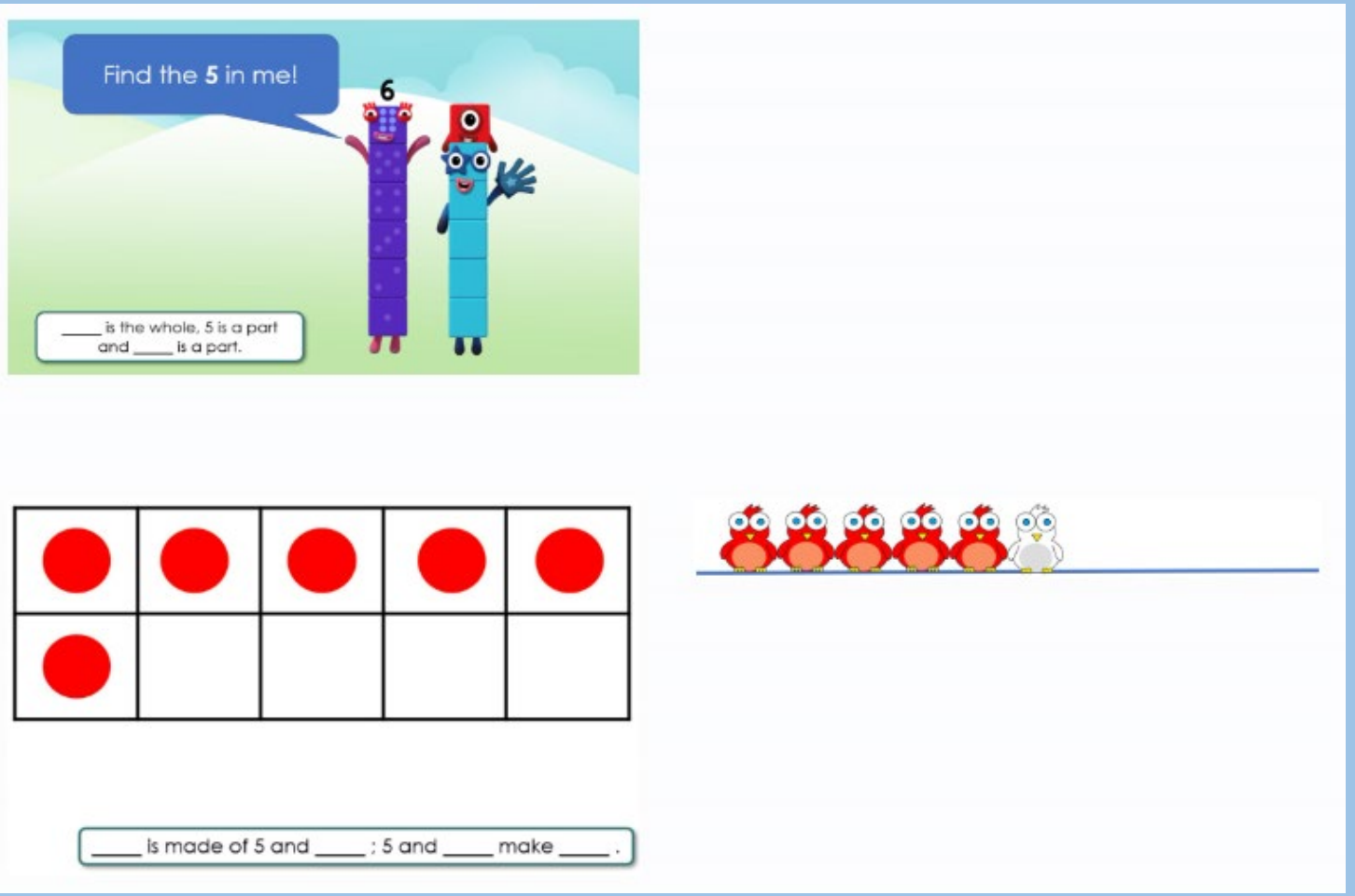
Mastering Number



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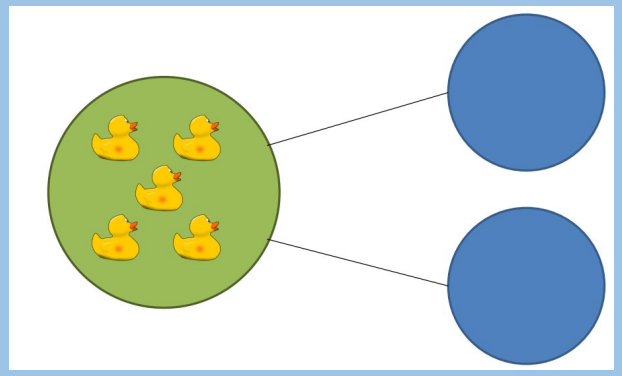
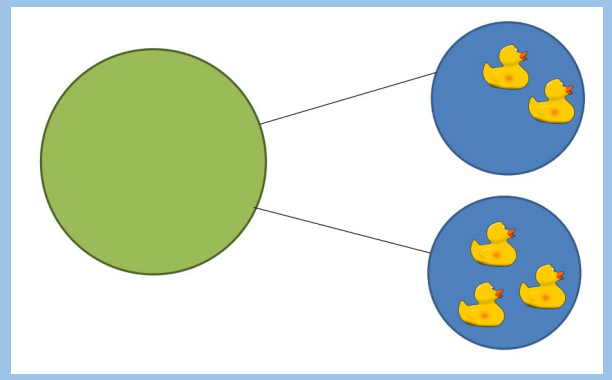
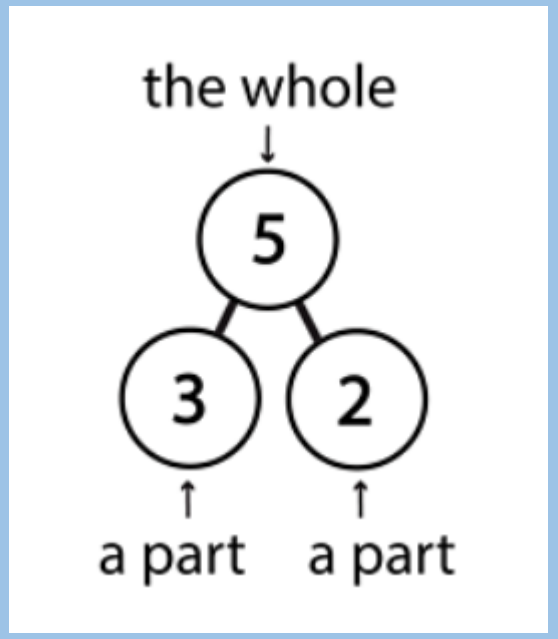
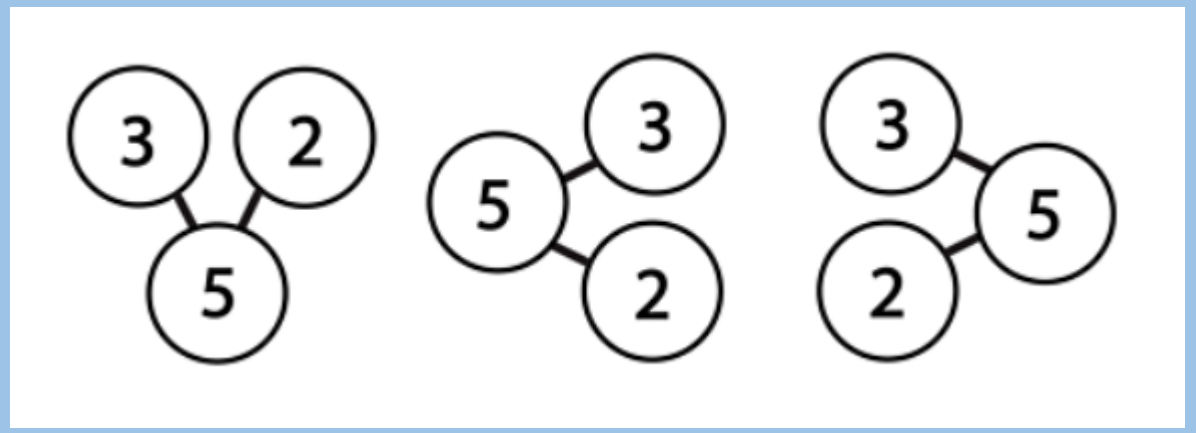
Part whole models

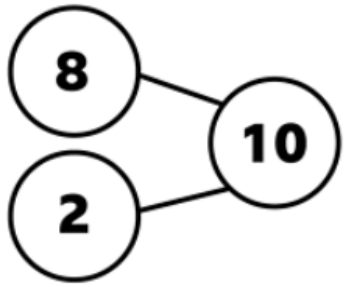








Part whole models



This part-whole model shows:

- 8 + 2 = 10
- 2 + 8 = 10
- 10 - 2 = 8
- 10 - 8 = 2

https://www.ictgames.com/mobilePage/partPartWhole/index.html

Take 10 counters or cubes, this is your whole.
On your table can each of you partition (split up) your 10 in different ways?

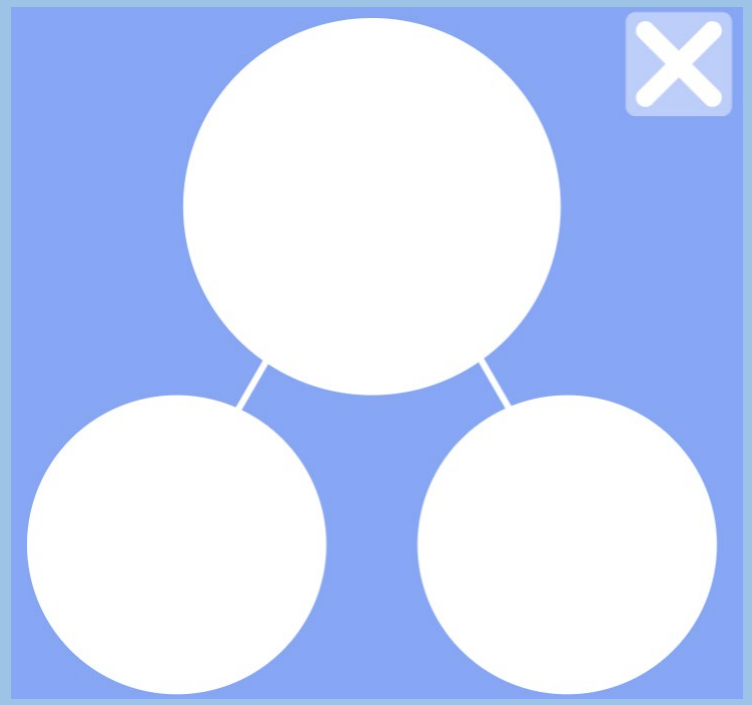
Place value

Children need to have a concrete understanding of place value in Year 1. It involves understanding what each digit represents. They need to be able to identify and represent the number using objects and images.

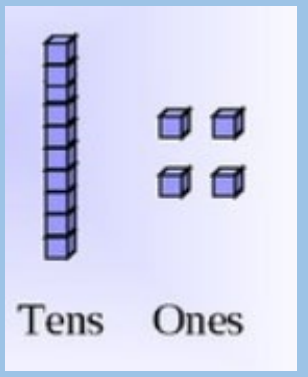
- https://mathsbot.com/manipulatives/numberFrames
- https://www.ictgames.com/mobilePage/arrowCards/
- https://www.topmarks.co.uk/place-value/place-value-charts
- https://www.topmarks.co.uk/learning-to-count/place-value-basketball

Please note - we no longer use the term units – they're ones.

Can you make the whole 58 on the part whole model using the base 10?

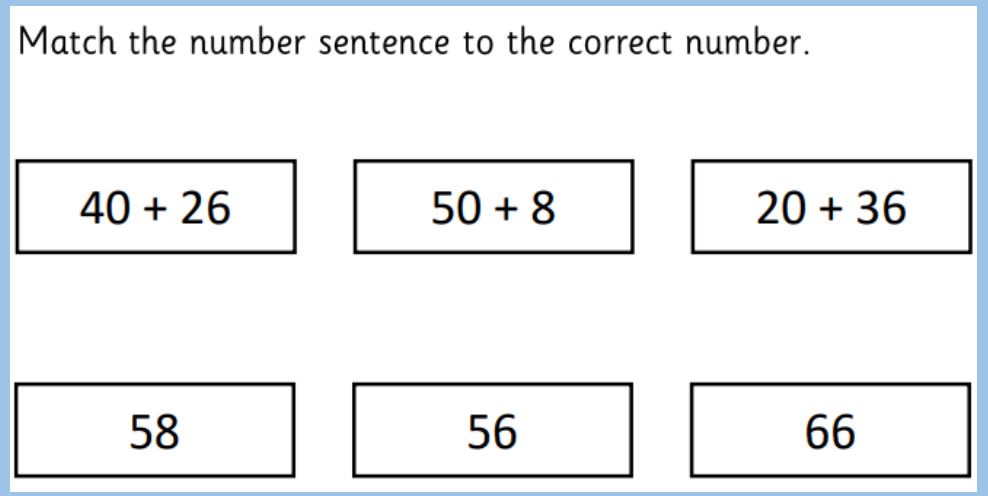


Base 10



Using place value

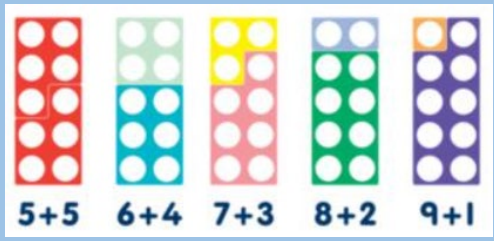
In Year 2 children need to develop a true understanding of how numbers change when 10s and 1s are added or taken away. This supports mental calculation skills and fluency.

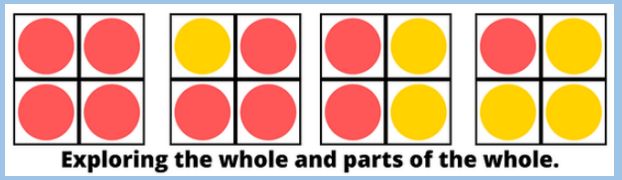


Talk to the person next to you about different ways you could partition 58 using your part whole model.

- https://www.topmarks.co.uk/maths-games/daily10
- https://www.topmarks.co.uk/place-value/bead-numbers

Some resources we use





- Numicon also known as number frames
- Double sided counters
- Arrow cards
- Number lines

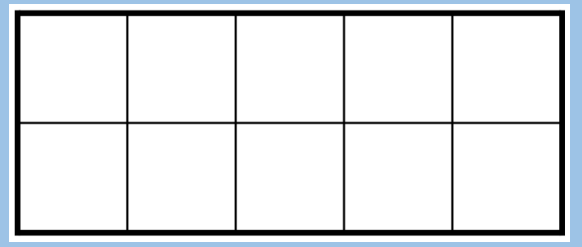
https://mathsframe.co.uk/en/resources/resource/37/placing_numbers_on_a_number_line

- Hundred squares

https://www.topmarks.co.uk/learning-to-count/paint-the-squares

- Ten frames

https://www.ictgames.com/mobilePage/tenFrame/index.html
https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Ten-Frame/

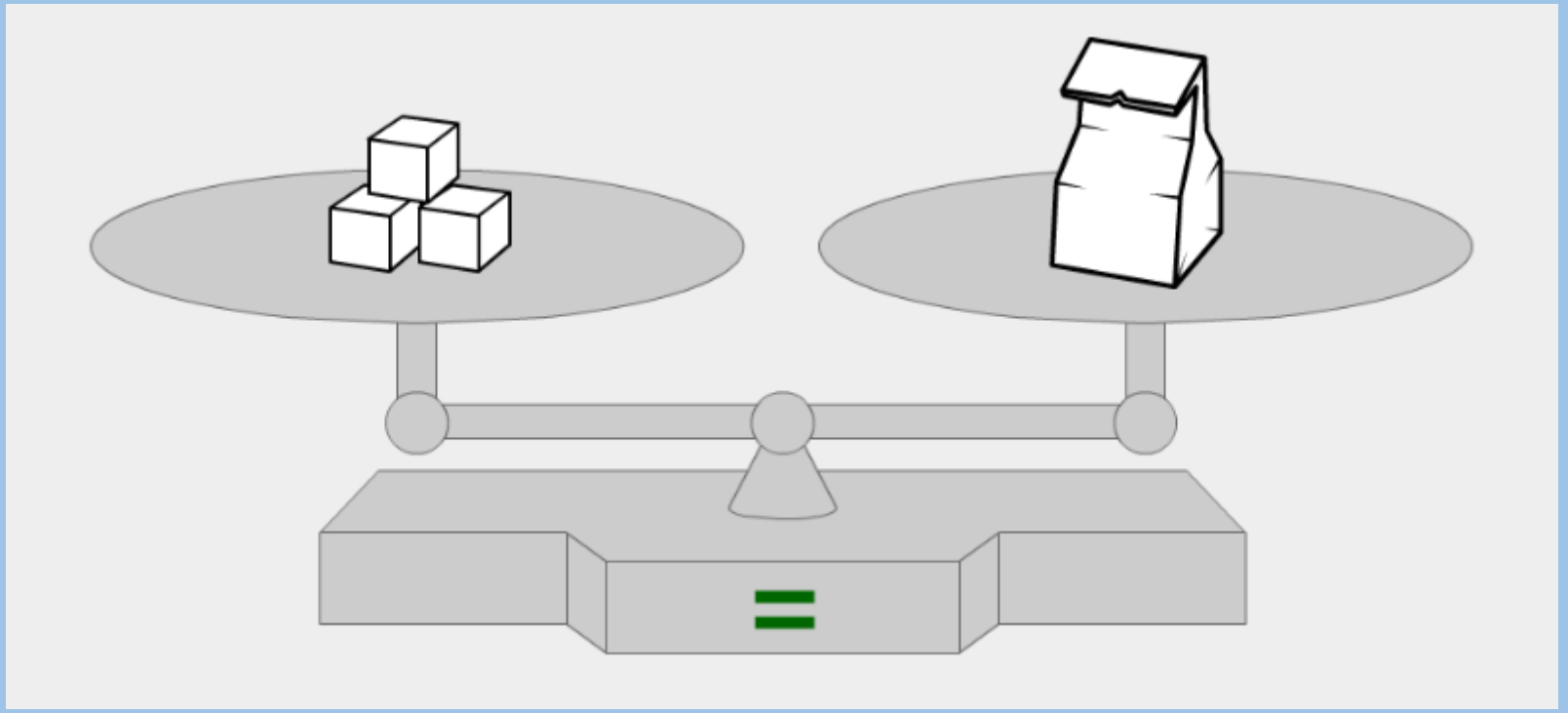


- Part whole models
- Bar models

The equals symbol =

We read this as ‘is equal to’ or ‘equals’, meaning ‘having the same value as’.

For example: 7 – 2 = 4 + 1



Patterns

- How is the 100 square organised?
- What patterns do you notice?

Patterns

- Patterns in rows/columns
- Odd/even
- 1 more/less
- 10 more/less
- Multiples of 2, 5, 10.

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
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Patterns

- Patterns in rows/columns
- Odd/even
- 1 more/less
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31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Patterns

- Patterns in rows/columns
- Odd/even
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1	2	3	4	5	6	7	8	9	10
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31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

How to help at home

Numbers everywhere!

Counting

Songs, board games, steps. When doing craft, shopping, cooking. Forwards, backwards, in 2s, 5s, 10s. Socks, fingers. Money is great for this too.
Can they start from any number? Can they say 1 more/less, 10 more/less? Can they estimate how many?

Number facts

Bonds of numbers to 20 – all the ways to make that number.
Related facts – addition & subtraction

If I know 3 + 4 = 7 then what else do I know?
4 + 3 = 7
7 – 4 = 3
7 – 3 = 4
30 + 40 = 70
14 + 3 = 17
13 + 4 = 17
17 – 4 = 13
17 – 3 = 4

How to help at home

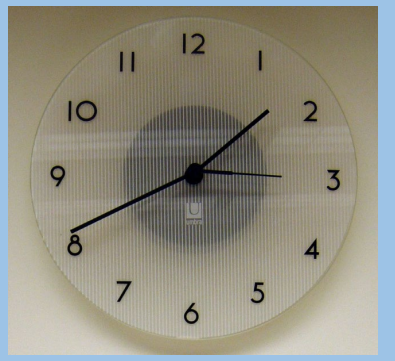
Sorting

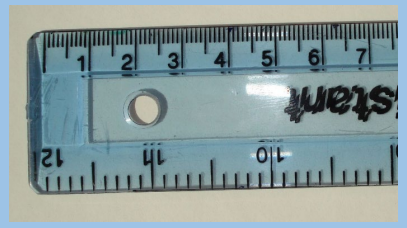
By how many, by colour, by shape, by size, by pattern.
e.g. socks, beads, plates/bowls, cutlery, anything children are interested in!

How to help at home

Measuring

Length, width, height, weight, capacity temperature and time.





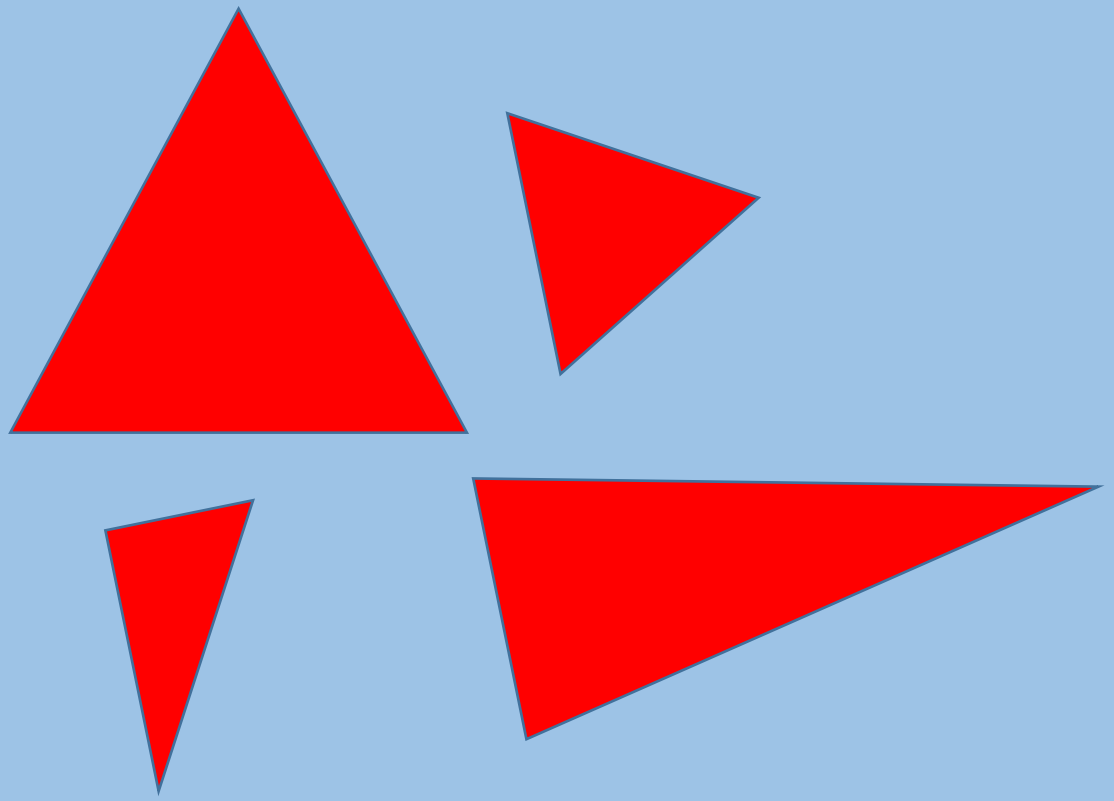
More about time

Names of days, months. Compare and sequence intervals of time. Number of seconds, minutes, hours, days, months.

How to help at home

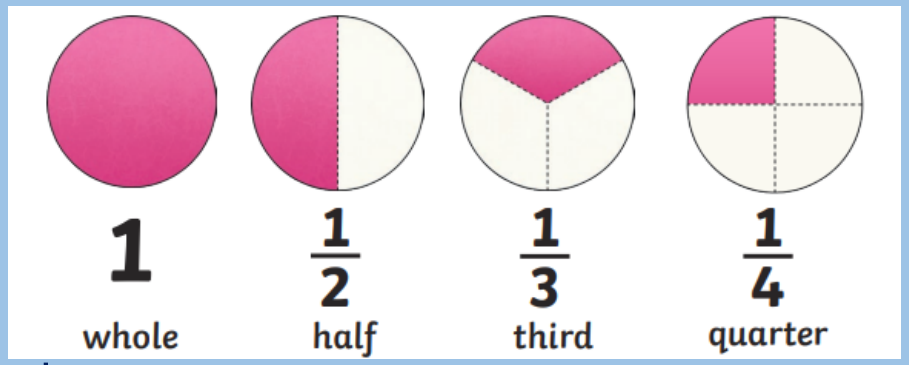
Shapes

Go for a shape walk/hunt, look for shapes at home.
Talk about their names, their properties – faces, edges, vertices.



2d and 3d in our environment.

How to help at home

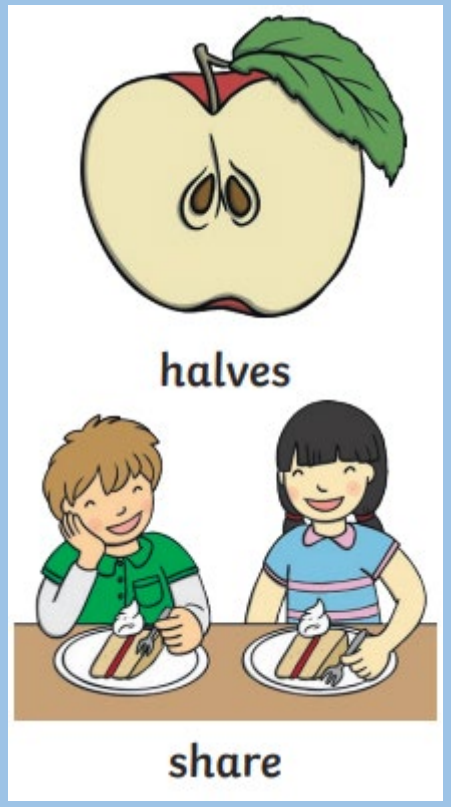


Fractions

When sharing things out, cutting things up, crafting, cooking.
Fractions of shapes, lengths, amounts, objects.

Money

Role play with real money.
Recognising coins and notes.
Making the same amount in different ways.
Working out change.



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Any questions?

Thank you for coming

Loughton Manor First School