



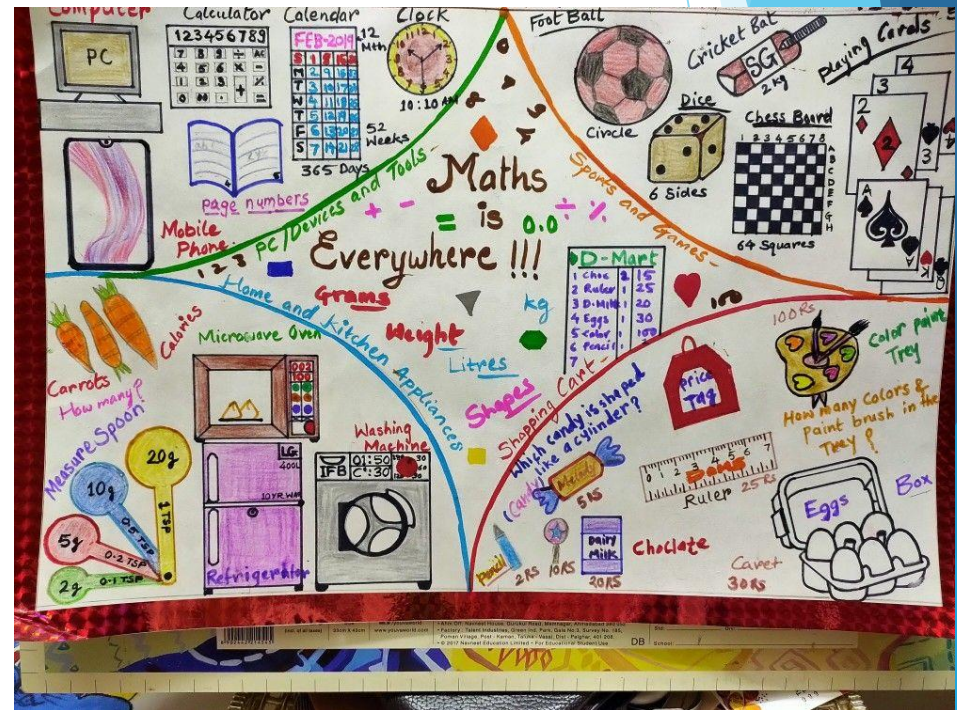
GRANGE PRIMARY SCHOOL

KS1 Maths Parent Workshop

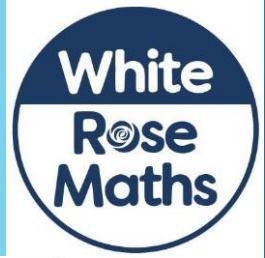


Aims of today:

- ▶ Explain taught mathematics strategies in KS1
- ▶ To familiarise you with taught processes using concrete materials
- ▶ To look at the national curriculum for KS1
- ▶ How to support your child at home



Mathematics at Grange



- ▶ At Grange, we use the White Rose style of teaching and learning. This style develops children's **fluency** before moving onto **reasoning** and **problem solving**.
- ▶ The Maths hub style of teaching at its core, recognises that by nurturing positive attitudes and building confidence in mathematics, all children can achieve.
- ▶ Concepts are built in small, logical steps and are explored through clear mathematical structures and representations.
- ▶ Children are taught together as a whole class and the focus is on focus groups with the adults. During this time, the teaching and learning is on depth - not acceleration - so that all children have a chance to embed learning.

Counters	
Dienes	
Number lines	
And other mathematical equipment	

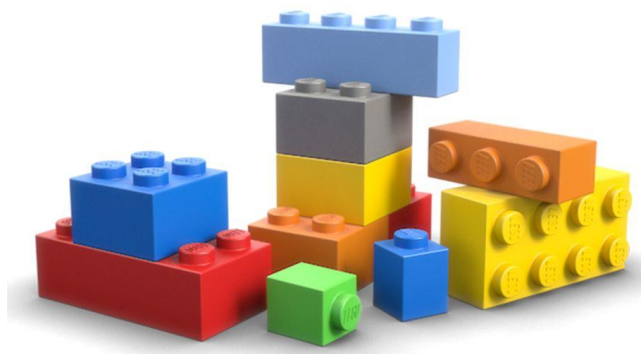
You do maths together every day...

- ▶ helping your child get dressed- first, next, then, finally
 - ▶ baking together
 - ▶ going to the shops
 - ▶ singing counting songs
 - ▶ building with blocks -
 - ▶ practically every activity you do with your child involves maths.
-
- ▶ All you need to do is find the learning opportunities in these activities and you'll be helping our children develop into happy and confident mathematicians!
 - ▶ Shape- money- measurement- number- time

whole new world sacrifice hard work
a class I neither love nor hate a mystery exhilarating like a sister compelling
Whoa so cool the universal language
what mu alpha theta spells key to success
everywhere
complicated effort difficult love hate relationship simplistic magical
MATH IS a puzzle important
like a good friend thousands of amaz
everything to me magic intimidating to me like flying is to a bird
critical thinking simple every question has a definite answer
my favorite challenging headaches the same in every language
interesting fun challenging in a good way useful
requires work ethic patience and practice a constant in a world of variables
never changing but very rewarding always the same thinking like a relationship
difficult at times an art form my achilles heel
satisfaction very easy class not so much









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MATHS MASTERY

Concrete -Pictorial- Abstract

- ▶ When children are introduced to a new concept they should have the opportunity to build competency.
- ▶ **Concrete**- Children are given the opportunity to use concrete objects and manipulatives to help them understand what they are doing.
- ▶ **Pictorial**- alongside this, children should use pictorial representations. These representations can then be used to help reason and problem solve.
- ▶ **Abstract**- both concrete and pictorial representations should support children's understanding of abstract methods.

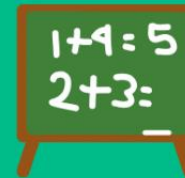
The CPA Approach



CONCRETE -
using physical objects
to solve maths problems.

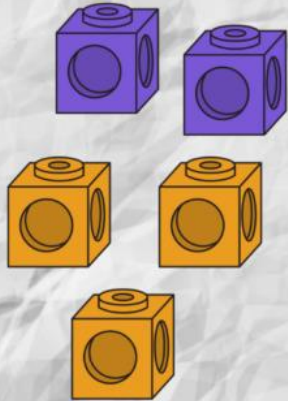


PICTORIAL -
using drawings
to solve maths problems.



ABSTRACT -
solving maths problems
using only numbers.

Concrete



Pictorial



Abstract

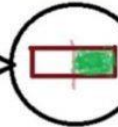
$$3 + 2 = 5$$



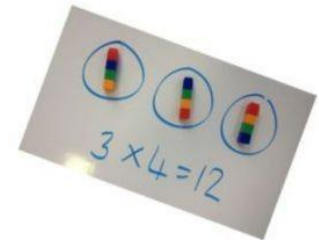
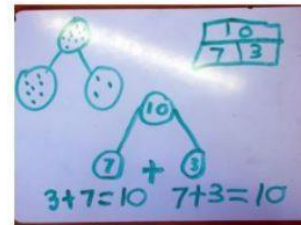
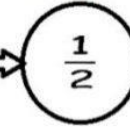
Concrete



Pictorial



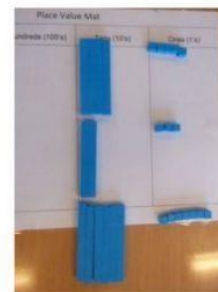
Abstract



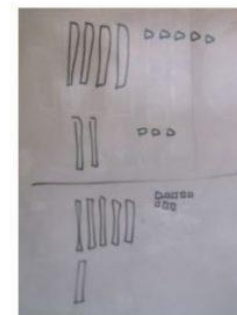
Some examples of how CPA could work:

CONCRETE

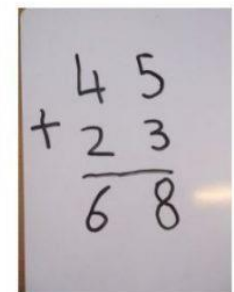
$$45 + 23$$



PICTORIAL



ABSTRACT



Concrete: Two baskets of fruit, one with 3 red apples and one with 2 green apples.

Pictorial: A ten-frame with 3 red blocks and 2 green blocks.

Abstract: $3 + 2 = 5$




Maths Mastery



- ▶ The **Mastery** style of teaching develops children's fluency before moving on to reasoning and problem solving.



For example: To count forwards


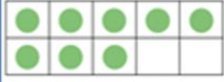


- ▶ Children will practice this in several different ways until they become fluent. Firstly, practically using manipulatives, then pictorially using different representations but varying the fluency each time.

Complete the number tracks.

			
1	2		

		
Three		Five

			
4	5		

			
9	8	7	6

Name _____ Date _____

1	3	5		8	10
11		15	17	19	
21	23		26		29
31	33	35		38	40
	42	44		47	49


www.worksheetfun.com

Maths Mastery

through

White Rose

An example of the same concept, counting forwards with further varied fluency

Year 1 | Autumn Term | Week 1 to 4 - Number: Place Value 

Count Forwards

Notes and Guidance

Children develop counting to continue a number sequence forwards. Problems should be presented in a variety of ways e.g. numerals, words and images. Children should be able to find consecutive and non-consecutive missing numbers in sequences.




When counting a set of objects, children need to be able to visualise what zero looks like and know that this comes before one.




Mathematical Talk




How can our counting skills help us complete a number track?
Do we always have to count from 0 or 1?
Can anything in our classroom help you with the words? (on a number line/working wall ensure words are matched with the numeral)
Are the numbers getting bigger or smaller?
What comes next?
Can you use the resources/images to help you count?

Varied Fluency

Complete the number tracks.

			
1	2		

			
Three			Five

			
4	5		

Complete the number tracks.

1		3	4	5	6		8	9	10
---	--	---	---	---	---	--	---	---	----

one		three	four	five	six		eight	nine	ten
-----	--	-------	------	------	-----	--	-------	------	-----


Fill in the missing numbers.

___, 1, 2, 3 3, 4, ___, 6

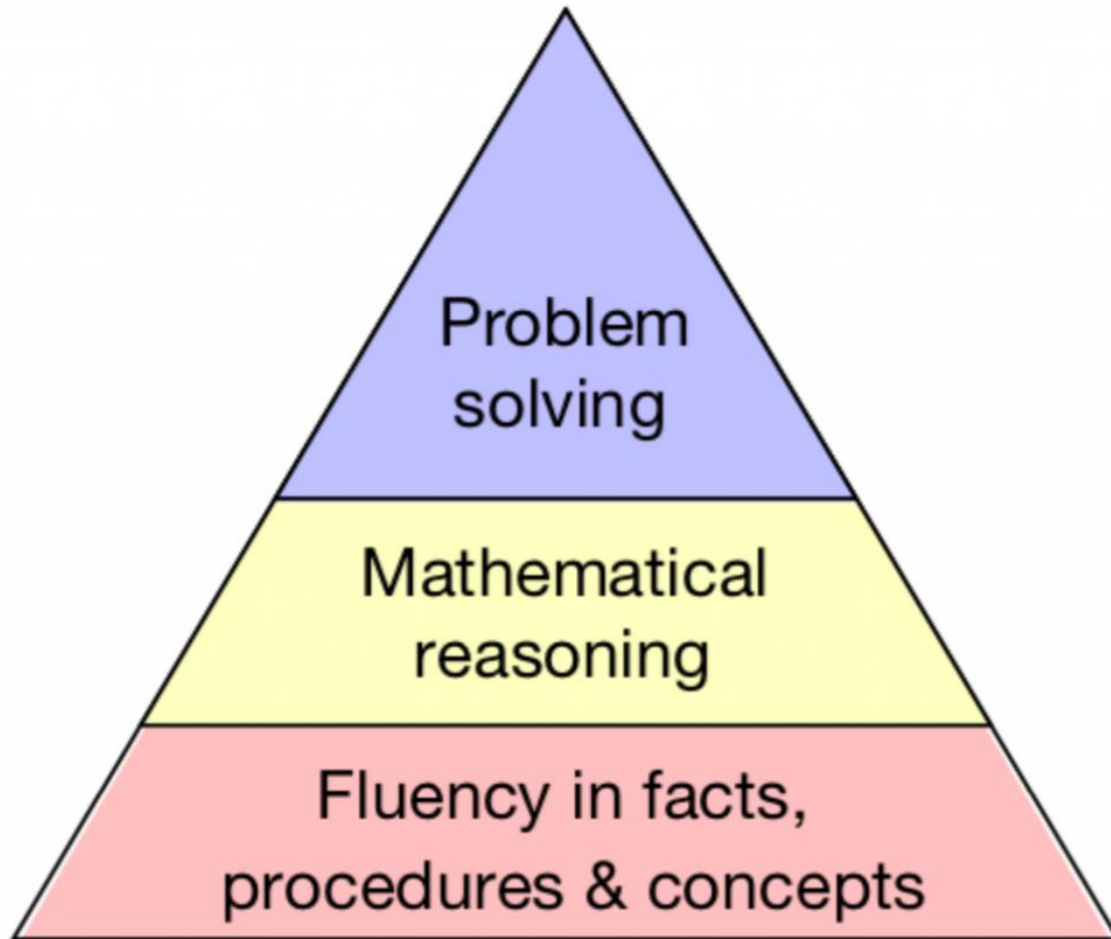
1, ___, 3, ___ six, ___, ___, nine

Concrete (with resources)

 Pictorial

 Abstract (numbers in written form)

Fluency is the foundation for reasoning and problem solving



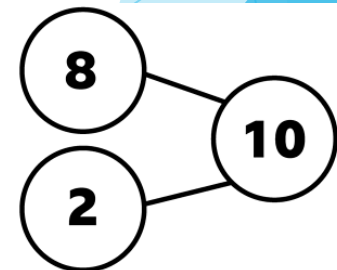
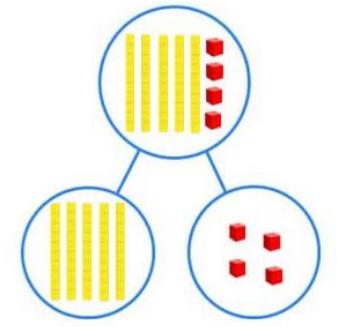
Maths Mastery through White Rose: fluency, reasoning and problem solving

Fluency:

- ▶ involves knowing key mathematical facts and being able to recall them quickly and accurately.
- ▶ This means being able to apply the same skill and knowledge to multiple contexts and be able to choose the most appropriate method for a particular task.



- ▶ We teach the content using a range of **concrete resources** to deepen the children's understanding by having them represent it in a variety of ways, ensuring that all children have sufficient time to practise what has been taught.
- ▶ We move from concrete materials, to pictorial representations to abstract questions. We encourage children to continue to use the resources to solve their problems and help to justify the answers.



Moving on to Reasoning and Problem solving

There is a HUGE focus on language and children justifying their answers...

Ask: How do you know?

Spot the mistakes, and correct the sequences.

- 0, 2, 3, 4, 5

-



Whitney says,



When counting forwards, we always count from 0

Do you agree?
Explain why.

Reasoning:

What is reasoning in maths?

- ▶ Reasoning in maths is the process of applying logical thinking to a situation.
- ▶ Because we teach a range of strategies, this gives children a solid base and skill level to use the correct problem solving strategy for a given question. They are encouraged to use their mathematical language and methods to describe the solution.
- ▶ It is the “how do you know...?” or “why is the answer six and not seven?”
- ▶ Mathematical reasoning is the bridge between fluency and problem solving. It allows pupils to use their fluency to accurately carry out the problem solving.

What is problem solving in maths?

- ▶ It is a process or series of processes to solve mathematical problems. This follows, logic, reasoning and communication.
- ▶ Problem solving in maths is finding a way to apply knowledge and skills you have to answer unfamiliar types of problems.

8 The numbers have been ordered smallest to greatest...



1 ... 3 ... 4 ... ? ... 7 ... 8

Write a number that could go in the box. _____

Write a number that could not go in the box. _____

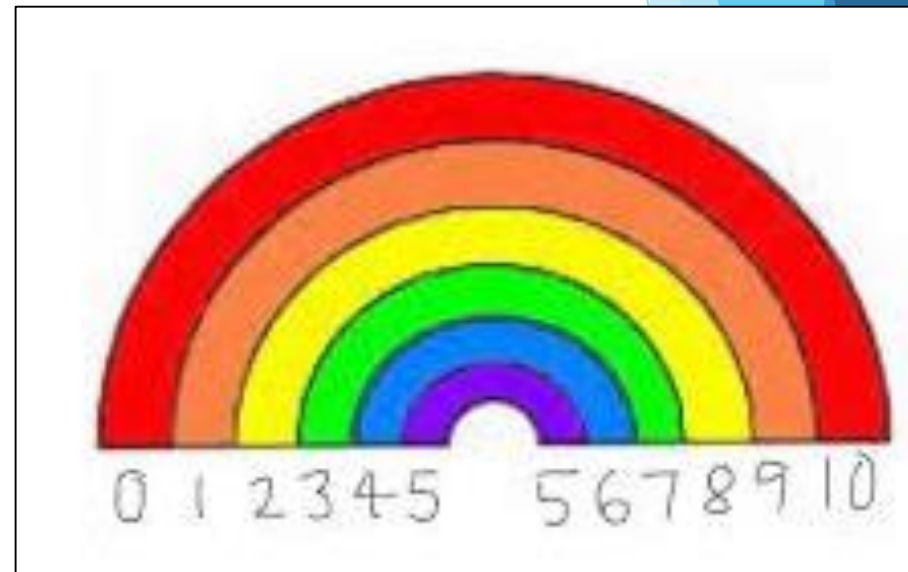
Challenge

Children's level of challenge increases by them practising their fluency in a variety of ways before moving on to the reasoning and problem solving aspects.

- ▶ The principals of **talking and explaining/proving how an answer was worked out** is proven in developing children's mathematical knowledge and skills.
- ▶ The following link has interactive 'manipulatives' that you can use to model maths visually:
<https://mathsbot.com/manipulativeMenu>

Number bonds to 5, then to 10, then 20!

- ▶ Number bonds are pairs of numbers that add up to a given number, such as 10. For example, $5 + 5$, $6 + 4$ and $7 + 3$ are all number bonds that make 10.
- ▶ Children learn these to help them understand the relationships between numbers.
- ▶ Practising these and knowing the number bonds instantly is something we work towards this year!
- ▶ Once they have 1-10, then 1-20...
The relationship to 100 becomes much easier.



KS1 Curriculum

Year 1 Curriculum- Number and Place Value

- ▶ Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.
- ▶ Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s.
- ▶ Identify 1 more and 1 less than a given number
- ▶ Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
- ▶ Read and write numbers from 1 to 20 in numerals and words.

Year 2 Curriculum- Number and Place Value

- ▶ Pupils should count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- ▶ Recognise the place value of each digit in a two-digit number (tens, ones)
- ▶ identify, represent and estimate numbers using different representations, including the number line
- ▶ compare and order numbers from 0 up to 100;
- ▶ use and = signs
- ▶ read and write numbers to at least 100 in numerals and in words
- ▶ use place value and number facts to solve problems.

Year 1 Addition and Subtraction

Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

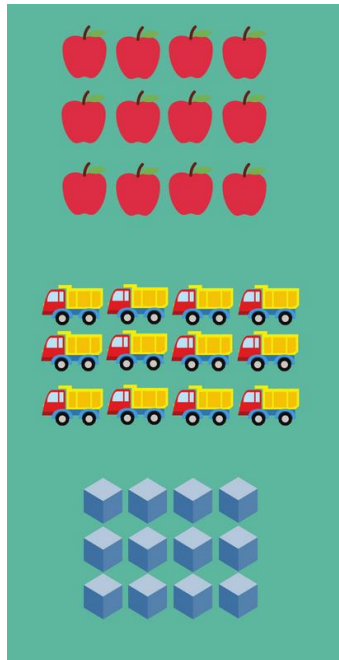
- ▶ Represent and use number bonds and related subtraction facts within 20.
- ▶ Add and subtract one-digit and two-digit numbers to 20, including 0.
- ▶ Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.

Year 2 Addition and Subtraction

- ▶ Pupils should solve problems with addition and subtraction:
- ▶ using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods
- ▶ recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- ▶ add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - ▶ a two-digit number and ones
 - ▶ a two-digit number and tens
 - ▶ two two-digit numbers
 - ▶ adding three one-digit numbers
- ▶ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- ▶ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Year 1- Multiplication and Division

- ▶ solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.



Year 2- Multiplication and Division

- ▶ recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- ▶ calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs
- ▶ show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- ▶ solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

The worksheet is titled "Planning & practice" and contains four sections:

- Top Left:** "On the image, find 2×5 and 5×2 ." It shows an array of 10 cakes arranged in 2 rows of 5.
- Top Right:** "On the image, find 4×5 and 5×4 ." It shows an array of 20 cakes arranged in 4 rows of 5.
- Bottom Left:** "Complete the number sentences to describe the arrays." It shows two rows of 3 chocolate bars. Below are boxes for 2×3 , $\square \times \square$, $\square \times \square$, and $\square \times \square$.
- Bottom Right:** "Complete the number sentence to describe the arrays." It shows two columns of 3 chocolate bars. Below are boxes for $\square \times \square$, "and", $\square \times \square$, and $\square \times \square$.

At the bottom, there are two clouds with the following text:

- Left cloud: "Draw an array to show: $2 \times 4 = 4 \times 2$ "
- Right cloud: "Draw an array to show: 3 lots of 6 = 6 lots of 3"

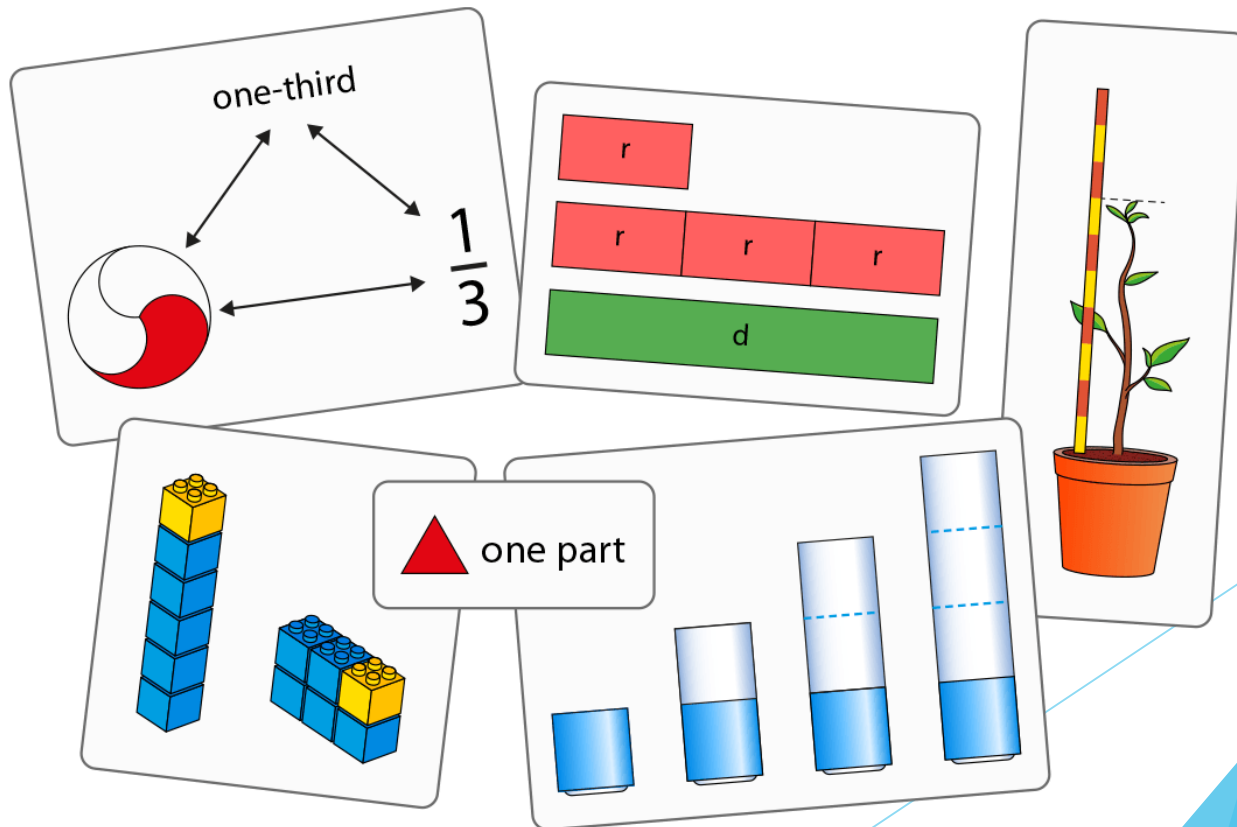
Year 1- Fractions

- ▶ recognise, find and name a half as one of two equal parts of an object, shape or quantity
- ▶ recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.



Year 2- Fractions

- ▶ recognise, find, name and $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
- ▶ write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$



Year 1- Measurement

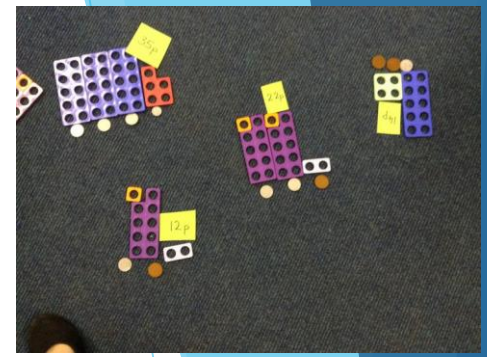


Pupils should :

- ▶ compare, describe and solve practical problems for:
 - ▶ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
 - ▶ mass/weight [for example, heavy/light, heavier than, lighter than]
 - ▶ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
- ▶ time [for example, quicker, slower, earlier, later]
- ▶ measure and begin to record the following: □ lengths and heights □ mass/weight □ capacity and volume □ time (hours, minutes, seconds)
- ▶ recognise and know the value of different denominations of coins and notes
- ▶ sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- ▶ recognise and use language relating to dates, including days of the week, weeks, months and years
- ▶ tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.



Year 2- Measurement



Pupils should:

- ▶ choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- ▶ compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$
- ▶ recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- ▶ find different combinations of coins that equal the same amounts of money
- ▶ solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- ▶ compare and sequence intervals of time
- ▶ tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- ▶ know the number of minutes in an hour and the number of hours in a day.

Year 1 - Geometry

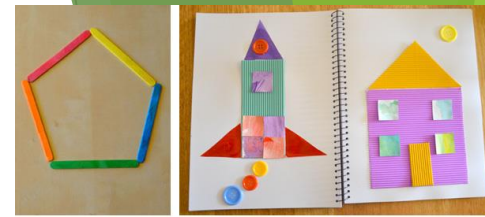
SHAPE

Pupils should :

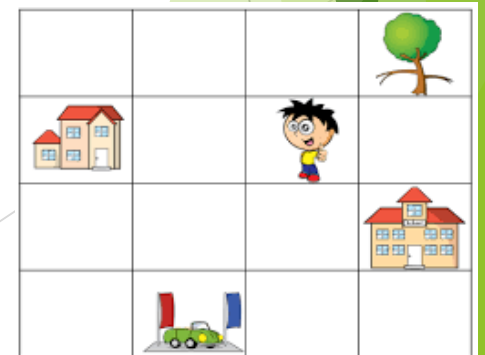
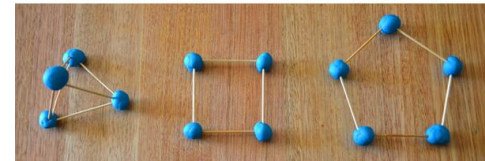
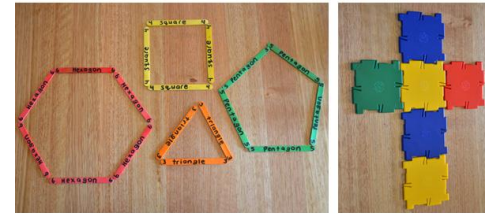
- ▶ recognise and name common 2-D and 3-D shapes, including:
 - ▶ 2-D shapes [for example, rectangles (including squares), circles and triangles]
 - ▶ 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

POSITION AND DIRECTION

- ▶ describe position, direction and movement, including whole, half, quarter and three quarter turns.



15 HANDS ON MATHS ACTIVITIES
LEARNING ABOUT 2- & 3-D SHAPES



Year 2 - Geometry

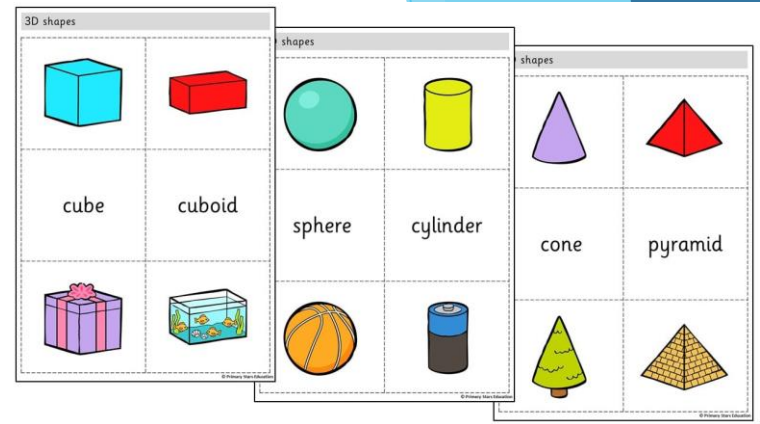
SHAPE

Pupils should :

- ▶ identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- ▶ identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- ▶ identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
- ▶ compare and sort common 2-D and 3-D shapes and everyday objects.

POSITION AND DIRECTION

- ▶ order and arrange combinations of mathematical objects in patterns and sequences
- ▶ use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).



Year 2 - Statistics

- ▶ interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ▶ ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ▶ ask and answer questions about totalling and comparing categorical data

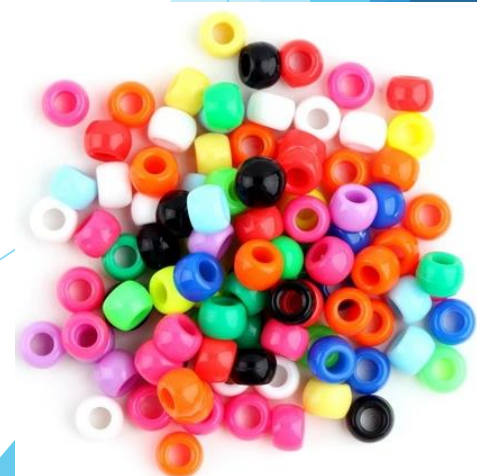
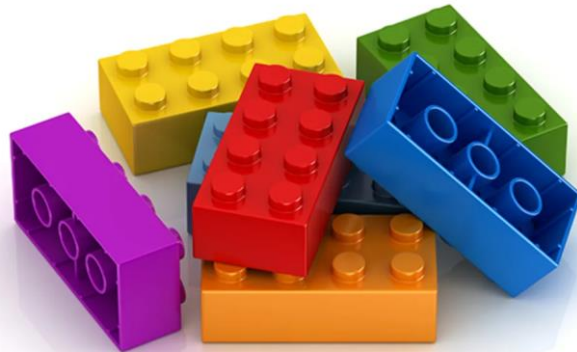
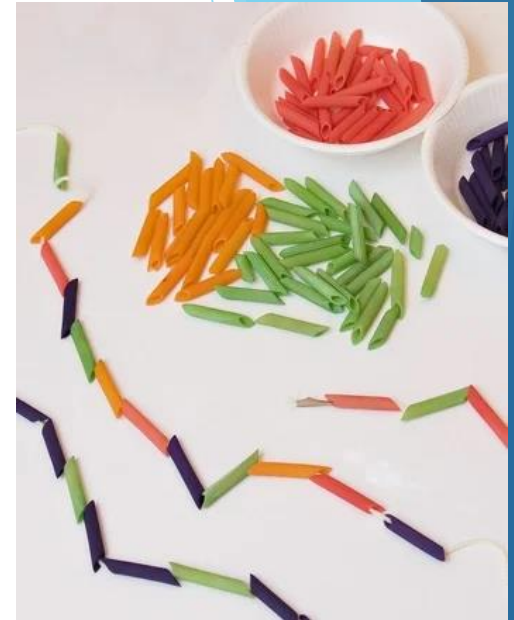


Favourite Fruit

Here is a bar chart showing the favourite fruit for a class of children.

The scale counts up in 1's.

Objects to count and use as manipulatives



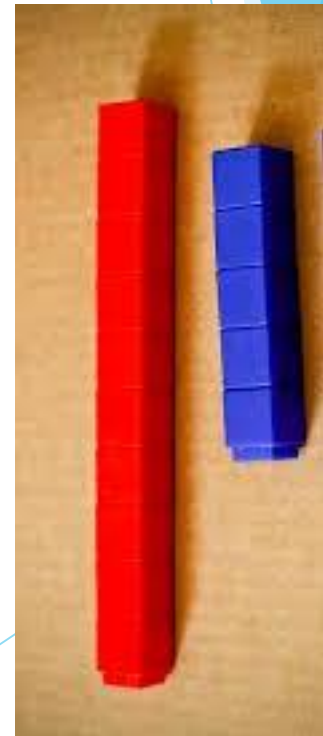


Cubes

- ▶ Cubes- making groups of numbers counting out 10... to make a 10 train

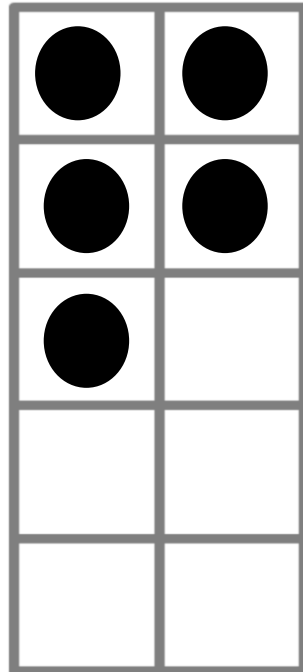
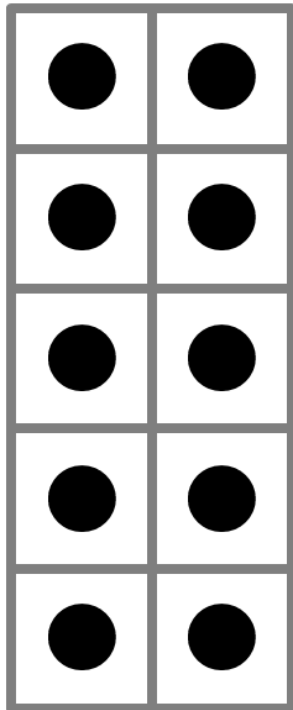


This is 15..
One group of 10 and 5
extra ones

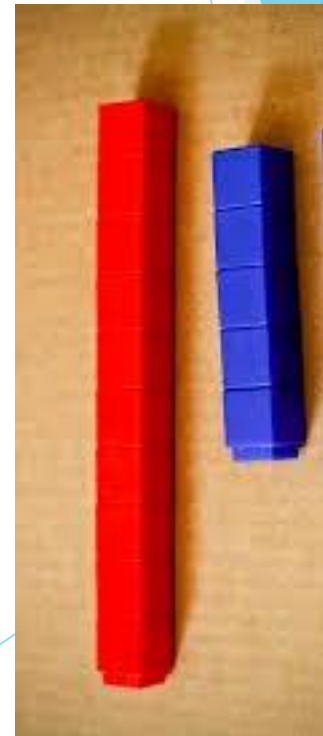


Cubes ~ Counters ~ Tens Frames

- ▶ Use the tens frame to represent numbers in different ways.



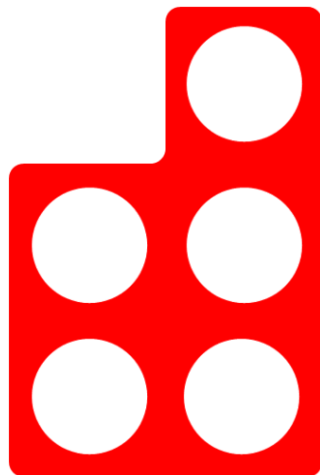
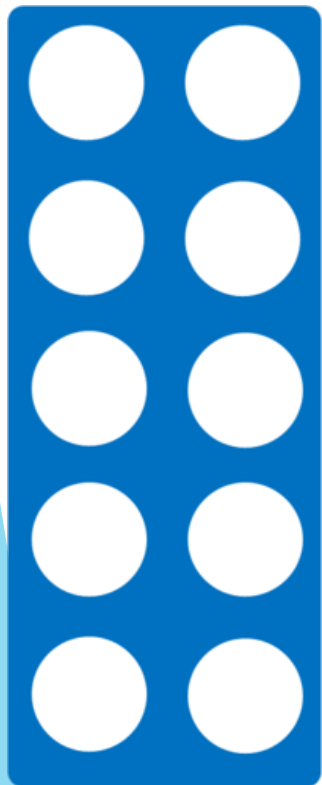
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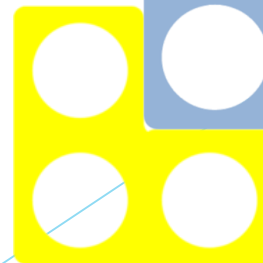
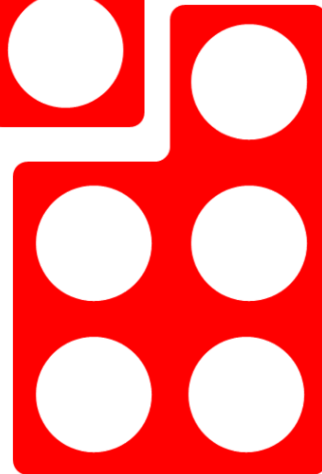
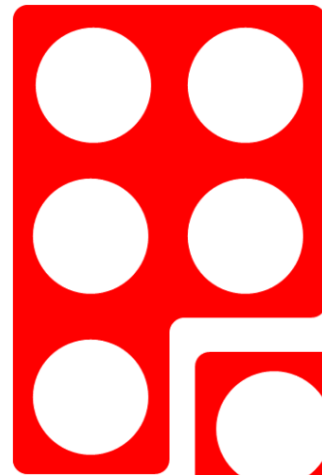
Numicon

- ▶ Use the tens frame to represent numbers in different ways.

This is 15..
One group of 10 and 5
extra ones

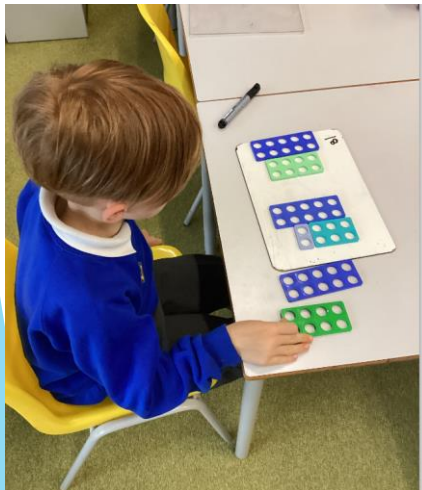
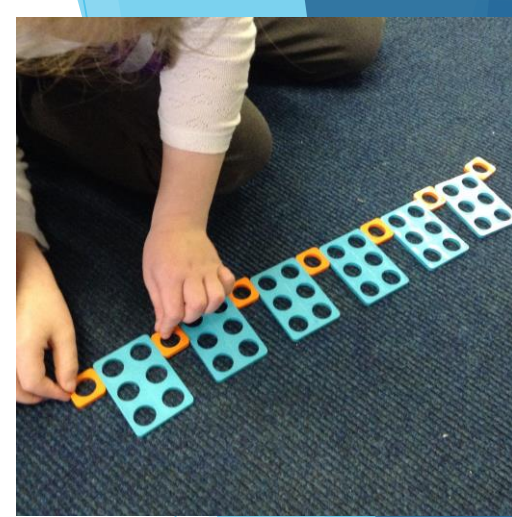


or



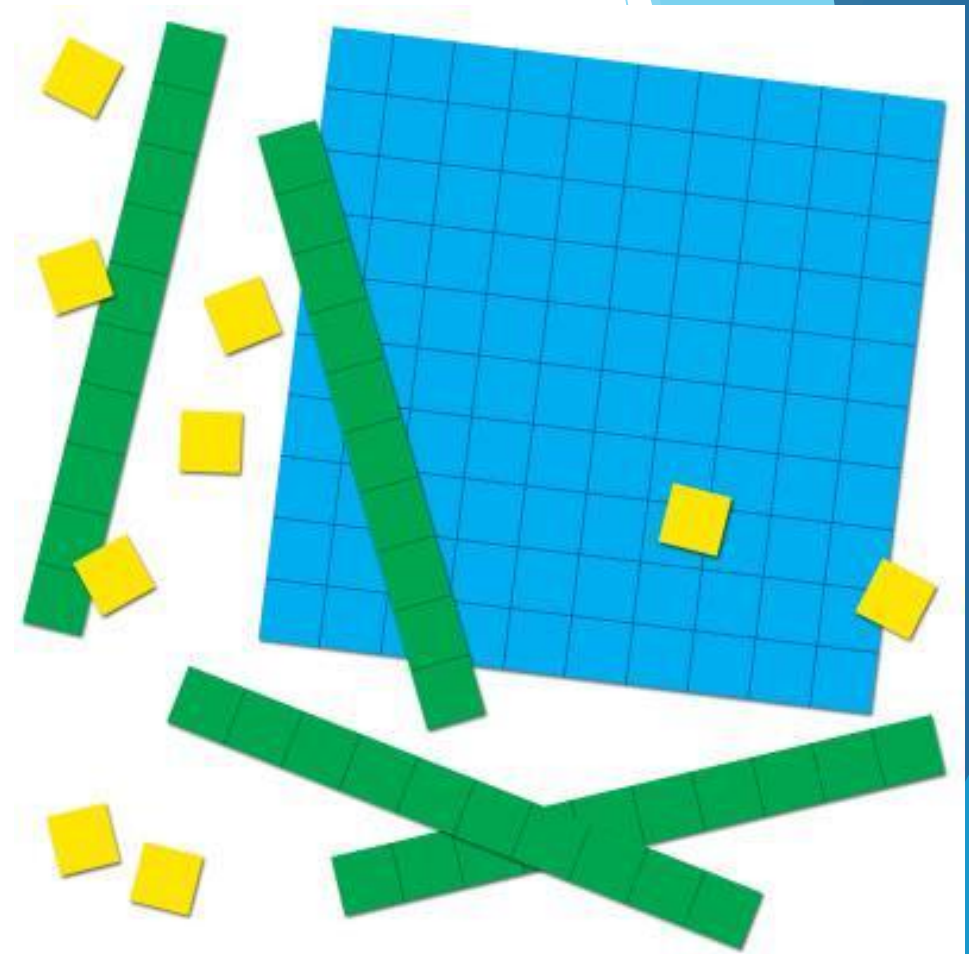
Numicon

- ▶ Great for number bonds, representing numbers, addition, subtraction, place value, shape, patterning.
- ▶ Multisensory which allows children to deepen their knowledge of fluency, reasoning and problem solving.



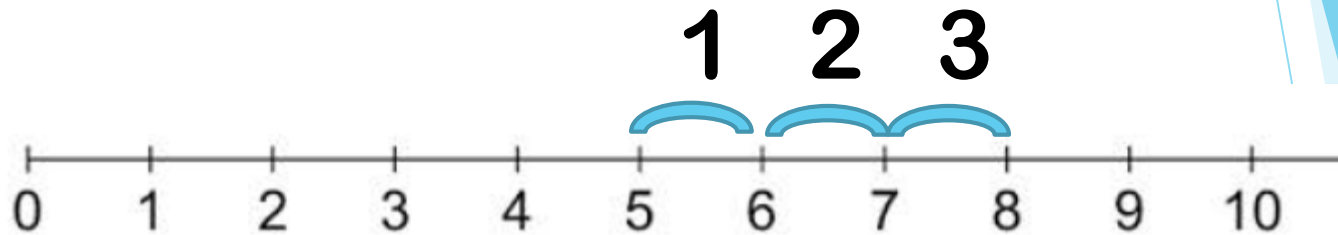
Deines- Tens and Ones

- ▶ Great for building numbers to 100
- ▶ Understanding groups of tens and 'extra ones'



Number line

▶ How we use it- ADDITION

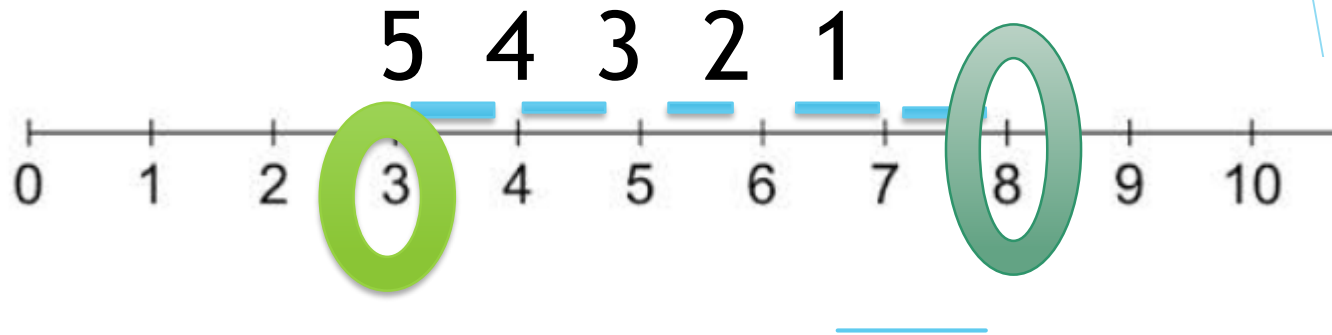


$$5 + 3 = 8$$

Jump forwards

Number line

▶ How we use it - SUBTRACTION



$$8 - 5 = 3$$

Slide backwards

100 square

- ▶ Counting forwards
- ▶ Counting backwards
- ▶ Addition
- ▶ Subtraction
- ▶ Number patterns

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
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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

100 square

- ▶ Counting forwards
- ▶ Counting backwards
- ▶ Addition
- ▶ Subtraction
- ▶ Number patterns

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
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91	92	93	94	95	96	97	98	99	100

100 square

- ▶ Counting forwards
- ▶ Counting backwards
- ▶ Addition
- ▶ Subtraction
- ▶ Number patterns

1	2	3	4	5	6	7	8	9	10
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100 square

- ▶ Counting forwards
- ▶ Counting backwards
- ▶ Addition
- ▶ Subtraction
- ▶ Number patterns

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81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

100 square

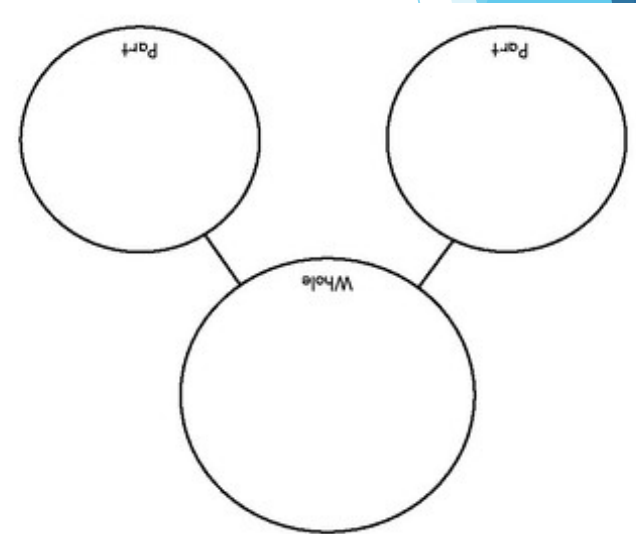
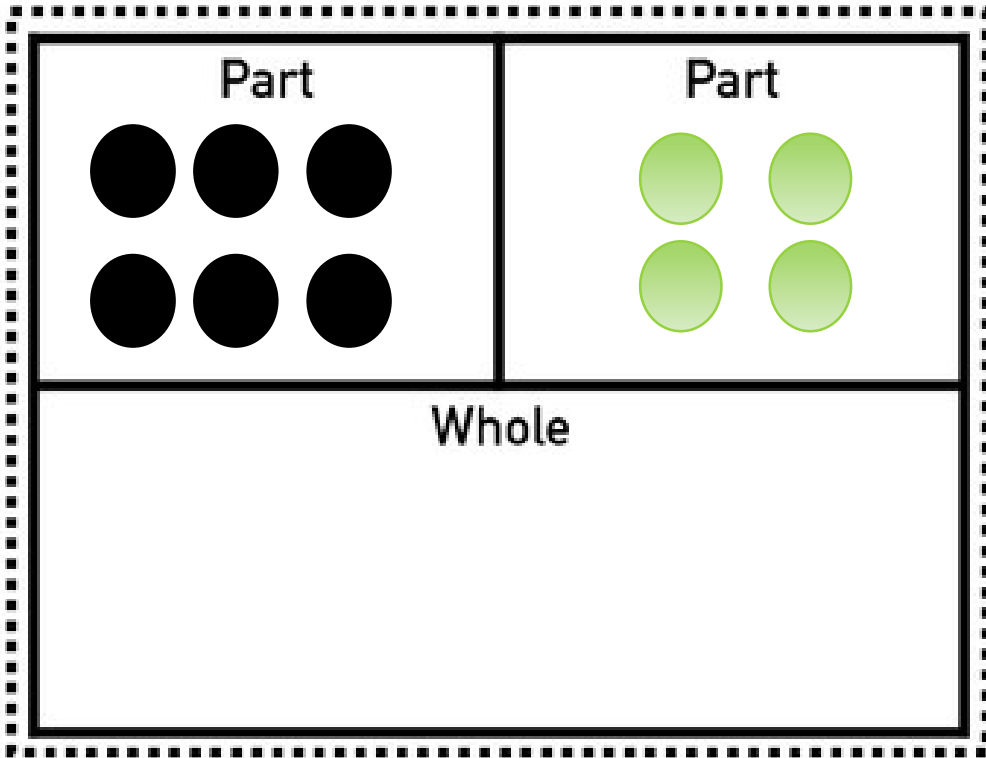
- ▶ Counting forwards
- ▶ Counting backwards
- ▶ Addition
- ▶ Subtraction
- ▶ Number patterns

1	2	3	4	5	6	7	8	9	10
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Part-Part-Whole

$$6 + 4 =$$

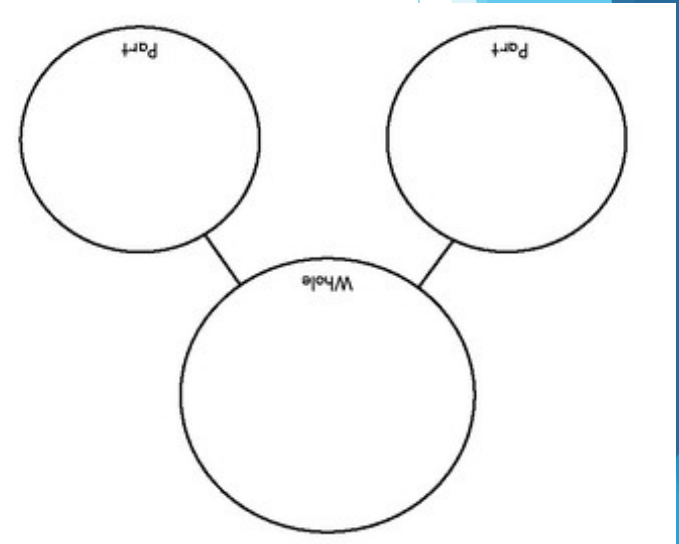
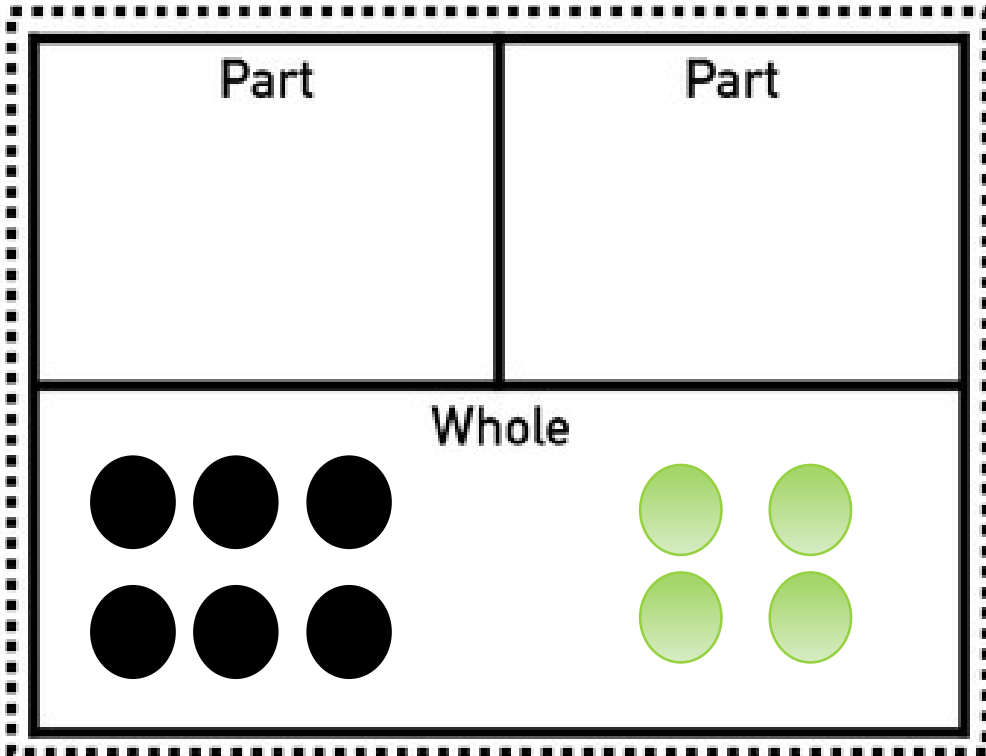
► Addition



Part-Part-Whole

$$6 + 4 =$$

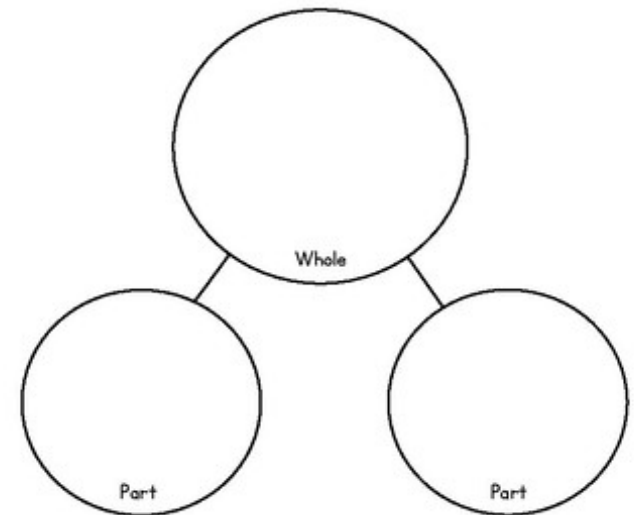
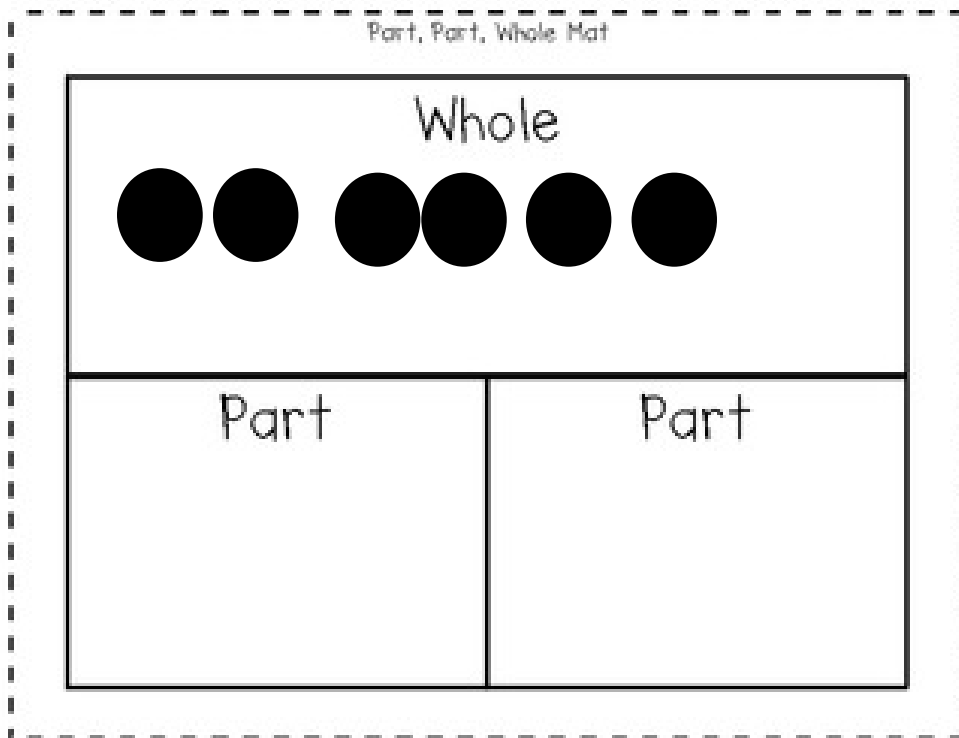
► Addition



Whole- Part- Part

$$6 - 4 =$$

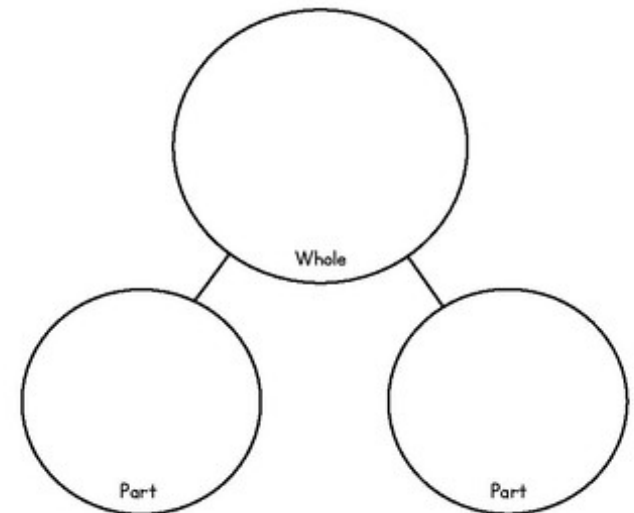
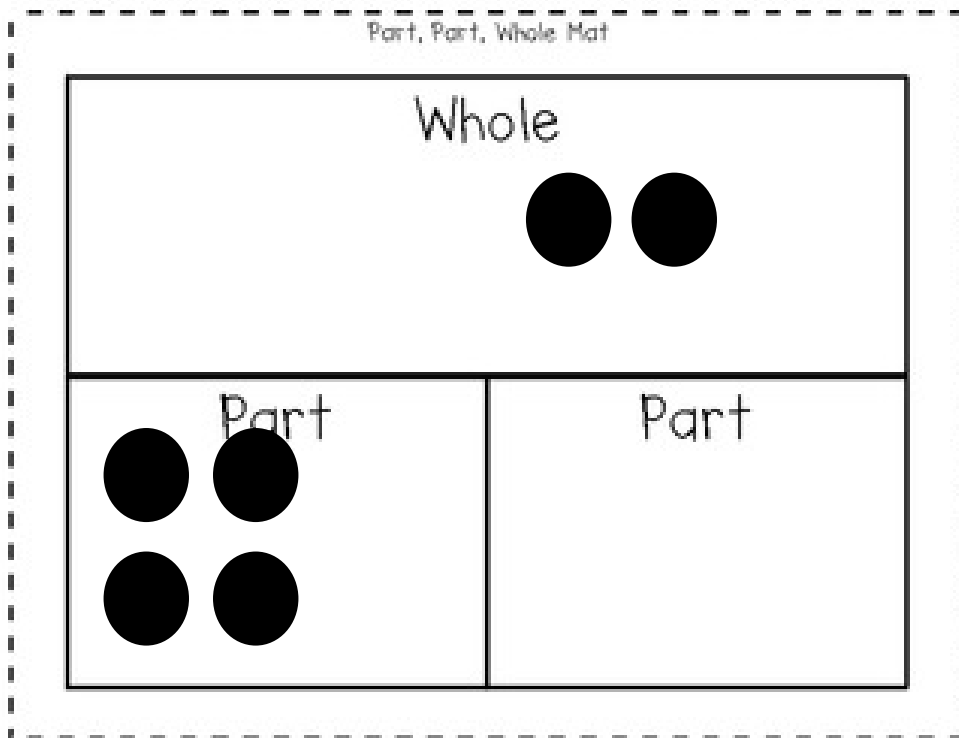
- ▶ Simple ways to do subtraction



Whole- Part- Part

$$6 - 4 =$$

- ▶ Simple ways to do subtraction



Mathematical language

- ▶ Mathematical language is all around children: “bigger”, “smaller”, “shorter”, “taller”, “greater than”, “less than”, “equal to,” “beside,” “above,” “below,” “heavy,” “light,” “same,” “different.”
- ▶ Using a variety of vocabulary helps children to develop understanding and have a wide range of language and gain more confidence in the process.



Encourage Spatial Reasoning



- ▶ Spatial abilities include being able to think about:
 - how objects look when rotated (e.g., if you turn a V to the side, where will the point be?)
 - how objects look from different angles, (e.g., what a pyramid looks like from the side or if you were looking at it from above)
 - how objects look on the inside (e.g., if you slice a cylinder down the middle of the circle on top and open it up you will see a rectangle!)
 - how parts of an object fit together, such as being able to imagine that if two triangles are put together a certain way, they would make a rectangle
 - how positions of objects relate to each other, such as understanding that a car is *inside* a garage or a tree is *behind* a fence.



6-7 years

Spatial Reasoning Toolkit

At this age children are developing their ability to visualise what objects will look like from different viewpoints (including from above). They are beginning to use the correct relative distances to create scaled models and maps and can decompose shapes in different ways (e.g. predicting nets and cross-sections). Children are also developing their ability to visualise transformations (e.g. predicting half-turn rotations, or predicting the path and distance of travelling objects).



half-way,
corner to corner,
opposite,
cuboid

Paper folding and nets

Developing shape composition and decomposition through visualisation and prediction



diagonal,
across,
opposite,
further

Ball games

Predicting path and distance



left, right, flip
alongside
corner

Puzzles & pattern blocks

Predicting what shapes will look like after being rotated/flipped/combined



symmetry,
back to front,
opposite,
reflection

Pattern making

Understanding symmetry (rotational and reflective)



nearer, further,
between,
correct size

Small world play

Developing complex scaled environments and interpreting what characters may see



left, right,
further,
opposite,
next to

Maps

Developing navigation, and understanding of scale

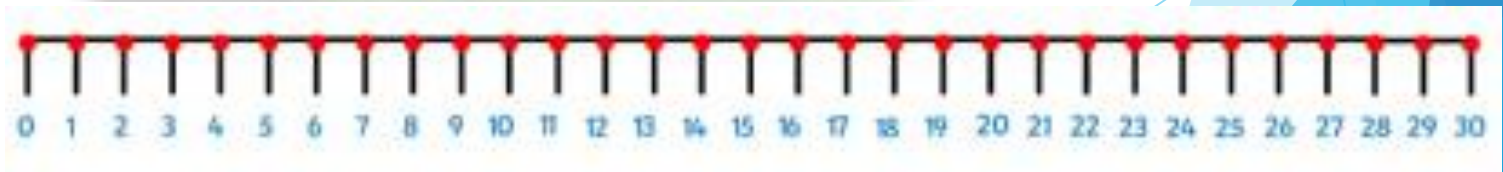
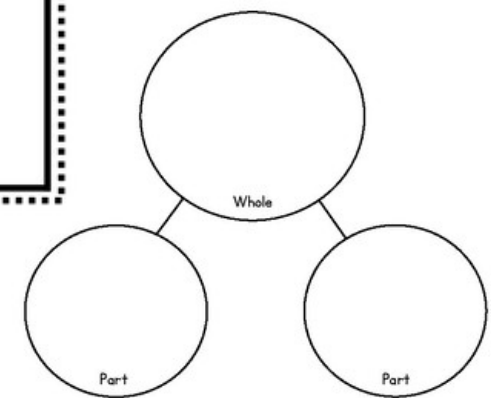
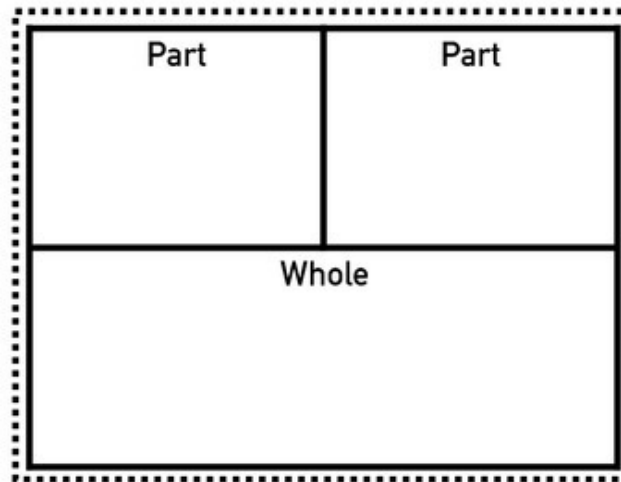
Spatial Talk with your children

- ▶ **When talking about shapes, go beyond labelling the shape. Talk about the defining features.**
 - “These are both *triangles*, because all triangles have *three sides* and *three angles*.”
- ▶ **Make the most of spatial activities such as block building and puzzle play by using spatial talk during the activities.**
 - “Let’s put the *big, wide* blocks on the *bottom*, and put the *small, narrow* blocks on the *top*.”
 - “I know this puzzle piece is a *corner* piece because it has two *straight* edges.”
- ▶ **Use spatial talk during activities your child loves.**
 - When your child is on the playground, describe her spatial location as she is on the go. “You went *over* the bridge, and now you’re running *under* the monkey bars!”
 - Talk about space in the illustrations when you are reading books. “That giraffe is really *tall* and is standing *behind* a *high* fence.”
- ▶ **Use gestures such as pointing or tracing objects to help your child understand what the spatial words you are using mean.**
 - When you say “straight edge” move your finger along the edge to show your child what straight means.
- ▶ **Ask questions and play games to help your child talk about space and shapes.**
 - Ask your child to find shapes in the world and identify them. To help her learn to describe shapes, follow up by asking questions such as, “How do you know it’s a triangle?”



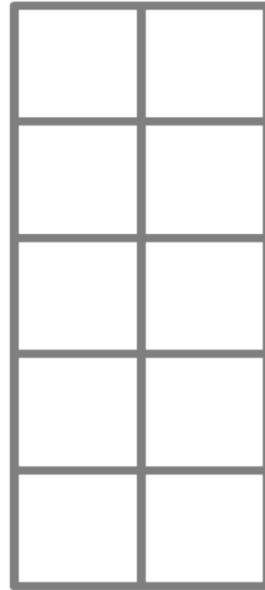
Maths Pack Resources to use at home

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
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100	99	98	97	96	95	94	93	92	91
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40	39	38	37	36	35	34	33	32	31
21	22	23	24	25	26	27	28	29	30
20	19	18	17	16	15	14	13	12	11
1	2	3	4	5	6	7	8	9	10

Snakes and Ladders Game



3D Shapes

square-based pyramid triangular prism cone cuboid

pyramid cube cylinder sphere

2D Shape Word Mat

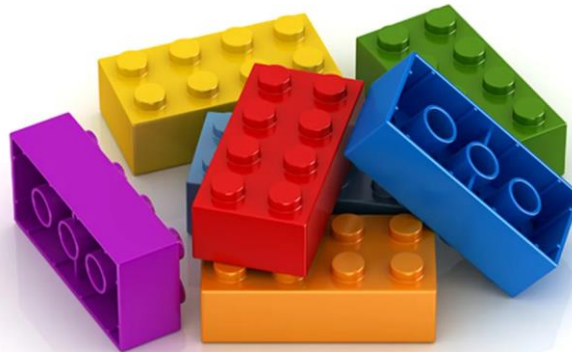
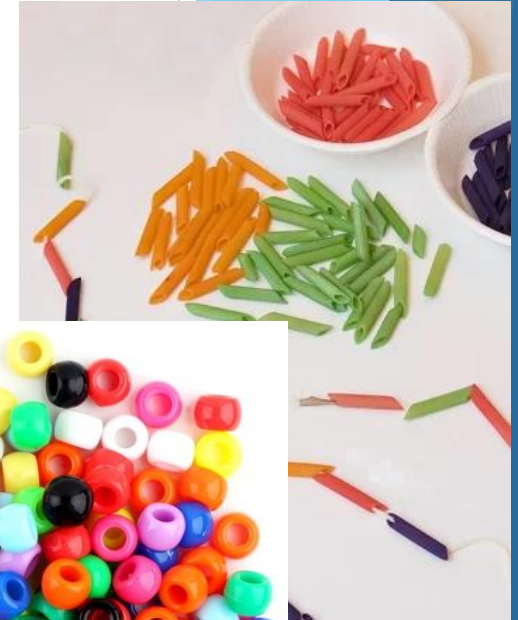
circle rectangle triangle oval

octagon square heptagon

rhombus pentagon hexagon kite



Objects to use at home





Supporting Maths at Home

- ▶ Door Numbers – Odd & even numbers, place value
- ▶ Playing Board Games – Place value and ordering
- ▶ Baking – Weighing, capacity, understanding scales
- ▶ Clocks & Time – Encourage children to wear a watch & tell the time
- ▶ Shopping & Working Out 'Change' - Word problems, +, -, x, ÷
- ▶ Food for Counting & Fractions – Pasta shapes, pizza/cake fractions
- ▶ Purses & Wallets – Emptying your purse for children to count coins
- ▶ Rubik's Cubes, Puzzles & Toys – Get presents that challenge children
- ▶ Internet Activities - www.ictgames.com , www.kenttrustweb.org.uk , www.woodlands-junior.kent.sch.uk , www.kidsmathgamesonline.com , www.bbc.co.uk , [mathletics](http://mathletics.com)
- ▶ 100 square patterns / games



Activities to complete at home:

one more, one less:

Sticky notes numbers

- ▶ Write the numbers one to ten (then twenty) on sticky notes, stick them in a row, then ask your child to pick a number and quiz them on which number is one more, and one less than that number.
 - ▶ Language of greater than, less than equal to

Secret number

- ▶ Think of a number, then ask your child to guess your secret number. Tell them that, for example, your secret number is “one more than six” or “one less than eight”. Ask your child to come up with their own secret number too and try to find out what it is. You could play this sitting on a bus or a train and look for numbers on the bus or in the carriage - a bit like I Spy! - to start the game off.
- ▶ Y2: “My number has more than 6 tens, and 3 ones, but less than 8 tens and 7 ones”

Simple addition at home

- ▶ Football scores- how many goals were scored in a match?
How can we represent that?
Can you do it in a different way?
- ▶ Talking about ‘doubling the recipe’ when cooking. Or 4 knives and four forks, how much cutlery altogether?
- ▶ Remember that while you are talking and playing with your child you are always developing their language and building their real-life experiences. Talk about what you are doing. Use language such as *“add”, “adding”, “add on”, “sum|,” “total,” “subtract,” “less” and “take away”*, as this helps them to make the connection with home and school.

Solve practical problems with maths

- ▶ Once children have a good understanding of numbers and counting they can start to use maths to solve practical problems and apply their thinking to the real world! This knowledge assists in problem solving and reasoning that we teach through Maths Mastery and gives children the language to justify their answers by answering, *“how do you know?”*

Activities:

- ▶ Ask them how many cups of water they think it would take to fill a particular jug, test and compare to other containers. → making sure each measure is equal and fair.... Swap cups and have your child say if they think it will be more or less than the previous one and why.
- ▶ When getting ready to go out you can make use of ordinal numbers: “First we put on our shoes, then second we put on our jacket, third we put on our hat”.
- ▶ Three family members have to put their shoes and socks on. How many socks are altogether?

100 Square Games



- ▶ **Favourite numbers:** Choose your favourite number from the hundred square. Make up 3 statements about it e.g. it is greater than 30, it is less than 70, it is not in the 10s but it is in the 5s. Can someone else guess your number correctly? If not, let them ask a question to help them.
- ▶ **Find the number:** Say a number to your child. Ask them to find it on the hundred square and cover it with a counter or their finger. Ask them how they found it. Play to improve. Can you find it quicker next time? How did you do it? Keep playing to improve strategy and explain. How many tens? How many extra ones make up your number?
- ▶ **Odds and Evens:** Game for 2 players, one person chooses to be 'evens' and one 'odds.' Each player rolls a dice and if the 'odd' player lands on an odd number they cross out an odd number on the square, if not they pass. Next the 'even' player rolls a dice and if they land on an even number they cross out even number, if not they pass. Winner is first to have all numbers crossed out.

100 Square – Finding Patterns

Find patterns on the number square.

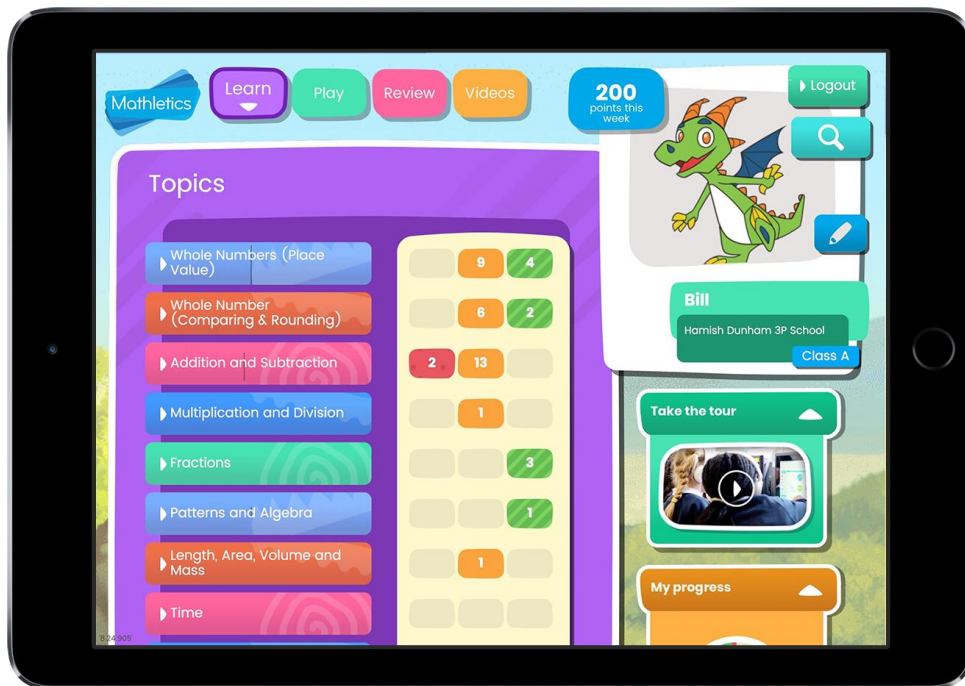
- ▶ What do odd and even numbers always have?
- ▶ What's a quick way of adding 10 to any number?
- ▶ Taking away 10 from any number?
- ▶ Can you find numbers that have the number '3' unit in them?
What do you notice?
- ▶ What is a quick way of adding 9?
If you start on 36 jump down to add 10 and jump back to take away 1.

1	2	3	4	5	6	7	8	9	10
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91	92	93	94	95	96	97	98	99	100

How about adding 11?

Mathletics

All children have access to their own Mathletics account which they can use at home. The aim of Mathletics is develop children mathematical ability whilst engaging them through the range of interactive activities.



If you do not know your child's log in details please speak to your child's class teacher

Questions?



Remember that while you are talking and playing with your child you are always developing their language and building their real-life experiences.

Talk about what you are doing!