

# Year 1 Mathematics Parent Workshop



# Aims of this WORKSHOP

- ▶ Explain mathematics strategies taught in year one
- ▶ To highlight the processes used in class to teach mathematics
- ▶ How simple objects around your house can have a huge impact on your child's learning.
- ▶ How to support your child at home
- ▶ **MATHS IS EVERYWHERE**

# Positivity is the key...

- ▶ Children who succeed at maths are usually the ones who enjoy it most, so remember - maths is fun, everyone!
- ▶ Something we aim to promote in year one.... Even if that's not the way you remember it from your own childhood. We all know how easily children pick up on the things we say, so it's vital that you don't pass on your dislike or fear of maths by saying things like 'I was never any good at maths' or 'I hated maths at school.'
- ▶ We want mathematics to be a positive experience for everyone.

# Do maths together every day...

- ▶ This might not sound very attractive, but guess what? You already are. Maths is everywhere - helping your child get dressed, 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 as parents 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 thinking like a relationship  
difficult at times an art form my achilles heel  
satisfaction very easy class not so much













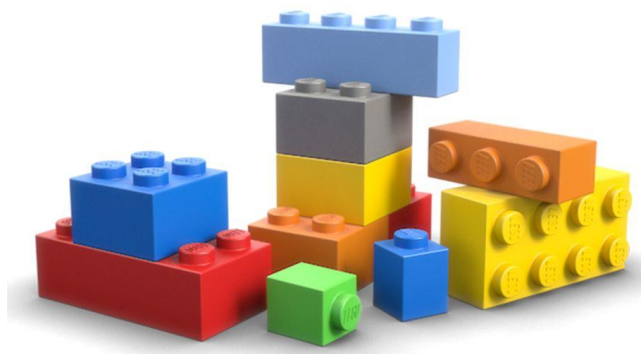






















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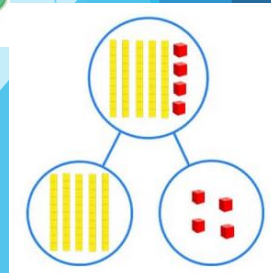
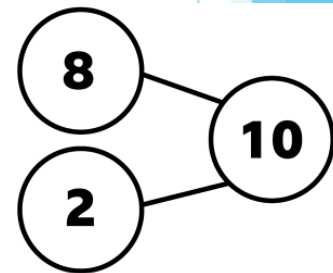
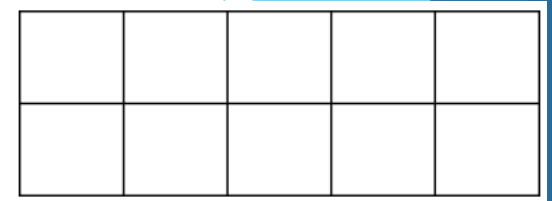
# Maths Mastery: fluency, reasoning and problem solving

## ▶ Fluency:

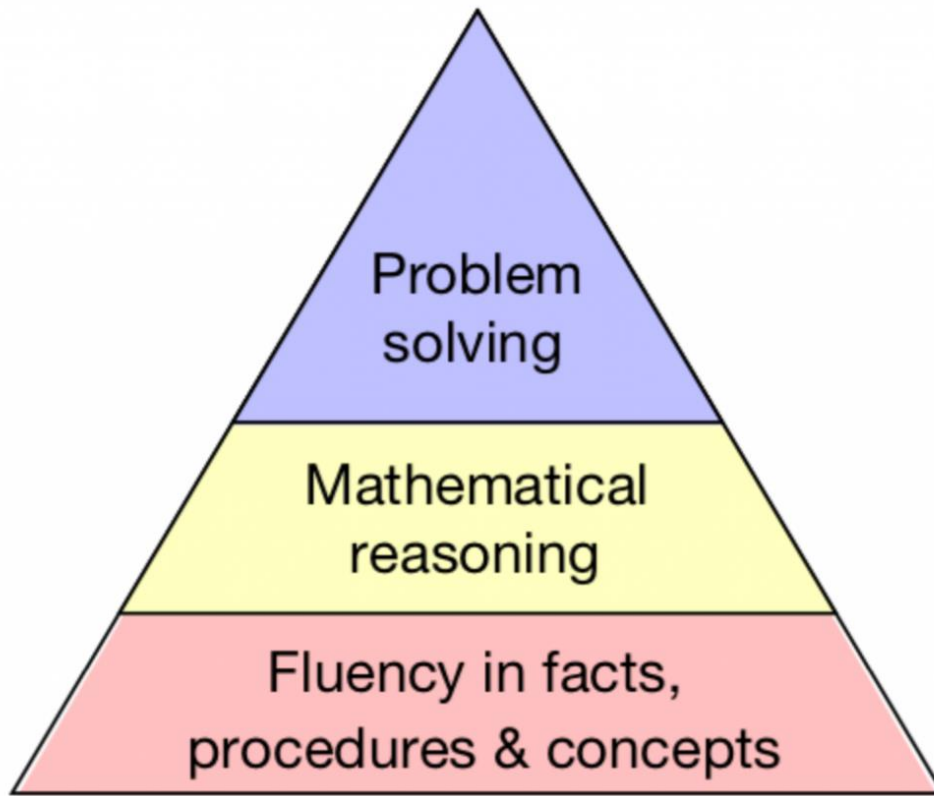
- ▶ involves knowing key mathematical facts and being able to recall them quickly and accurately.
- ▶ This means being able to apply the same skill and knowledge to multiple contexts and be able to choose the most appropriate method for a particular task.

▶ 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.



Fluency is the foundation for reasoning and problem solving



# 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 give 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. \_\_\_\_\_

# Things you can do at home

## Steps and stairs

- ▶ Count together as you walk up and down stairs while you're out and about or when climbing the stairs to bed.
- ▶ Counting forwards and backwards- one more and one less.
- ▶ Skip counting
  - ▶ 2s, 5s and 10s → this then transfers into counting coins later on in the year.
- ▶ **Grouping and sorting objects** (blocks, buttons, lego etc)
  - ▶ “What’s the same, what’s different?”
  - ▶ “Why have you sorted them that way?”
  - ▶ “Could you have sorted the objects a different way?”

# Simple addition and subtraction

- ▶ “One more” and “one less” leads neatly on to simple addition and subtraction, which is an important first step on the way to doing more complex sums.
- ▶ 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”, “subtract” and “take away”, as this helps them to make the connection with home and school.



# Activities for one more, one less:

## Sticky notes numbers

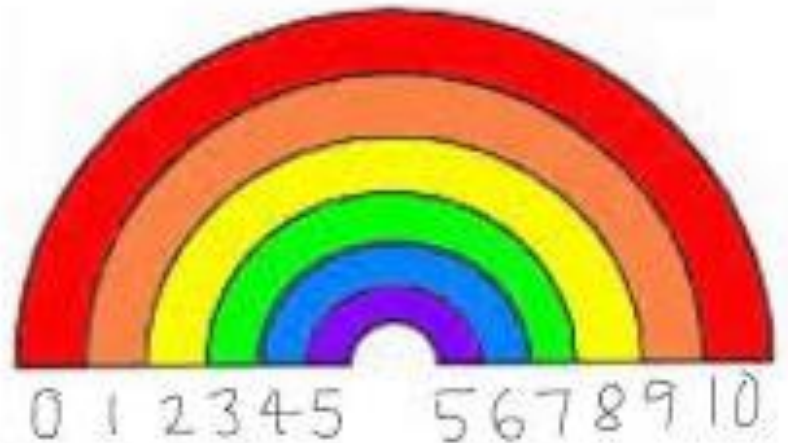
- ▶ Write the numbers one to ten (then twenty) on sticky notes, stick them in a row, then ask your child to pick a number and quiz them on which number is one more, and one less than that number.
  - ▶ Language of greater than, less than equal to

## 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.

# Number bonds to 5, then to 10

- ▶ Number bonds are basically just 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!



# Mathematical language

- ▶ Mathematical language is all around children - words and expressions such as “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.



# 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.

## 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?

# 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.

# Addition and Subtraction

- ▶ Sufficient evidence shows the ability to:

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

(<) less than (>) more than

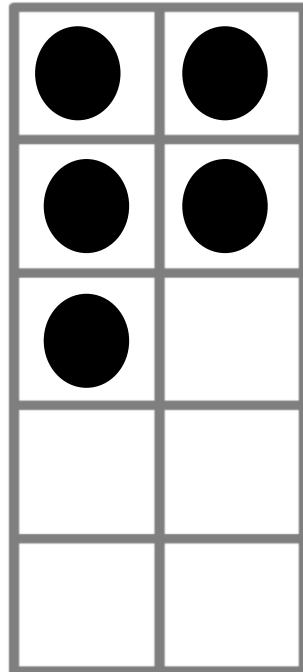
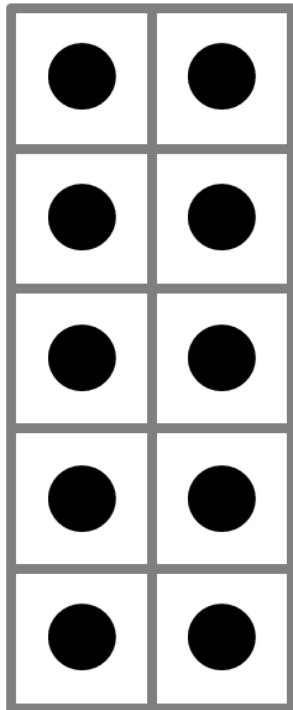
- ▶ Represent and use number bonds and related subtraction facts within 20.
- ▶ Add and subtract one-digit and two-digit numbers to 20, including 0.
- ▶ Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such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

- ▶ Addition, subtraction, doubling & halving/sharing, basic word problems, shape, patterns, money (recognising coins to £1), basic fractions- halves and quarters, counting in 2s, 5s and 10s, number facts
- ▶ Written methods introduced when ready
- ▶ Maths Vocabulary - greater emphasis

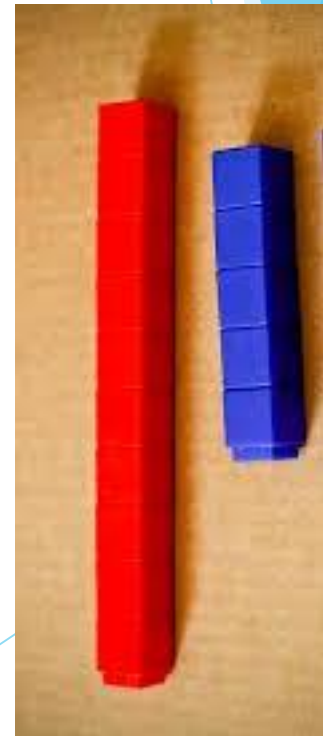


# Cubes ~ Counters ~ Tens Frames

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



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



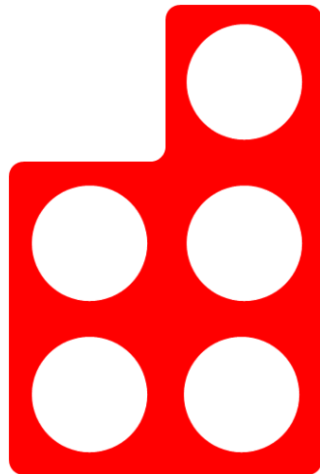
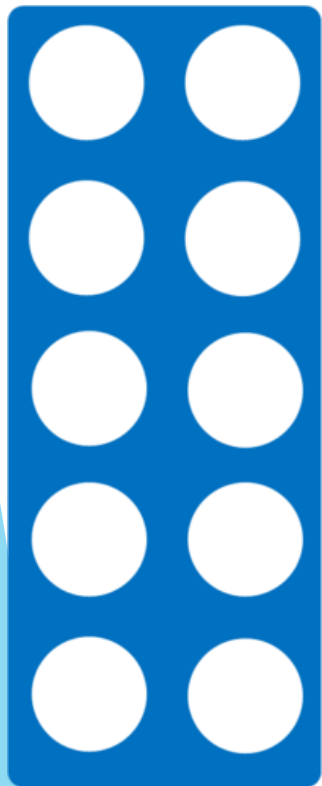
# Numicon

- ▶ 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.

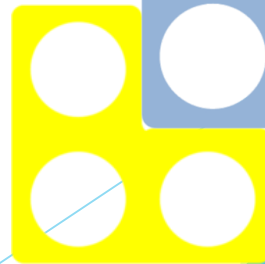
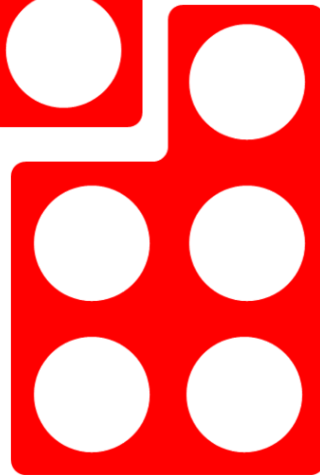
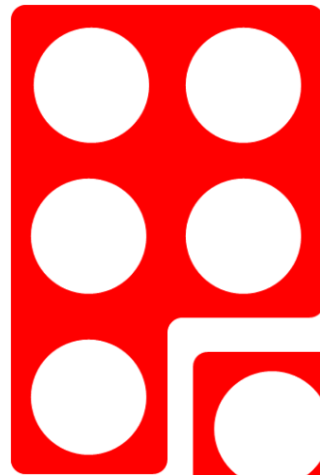


# Numicon

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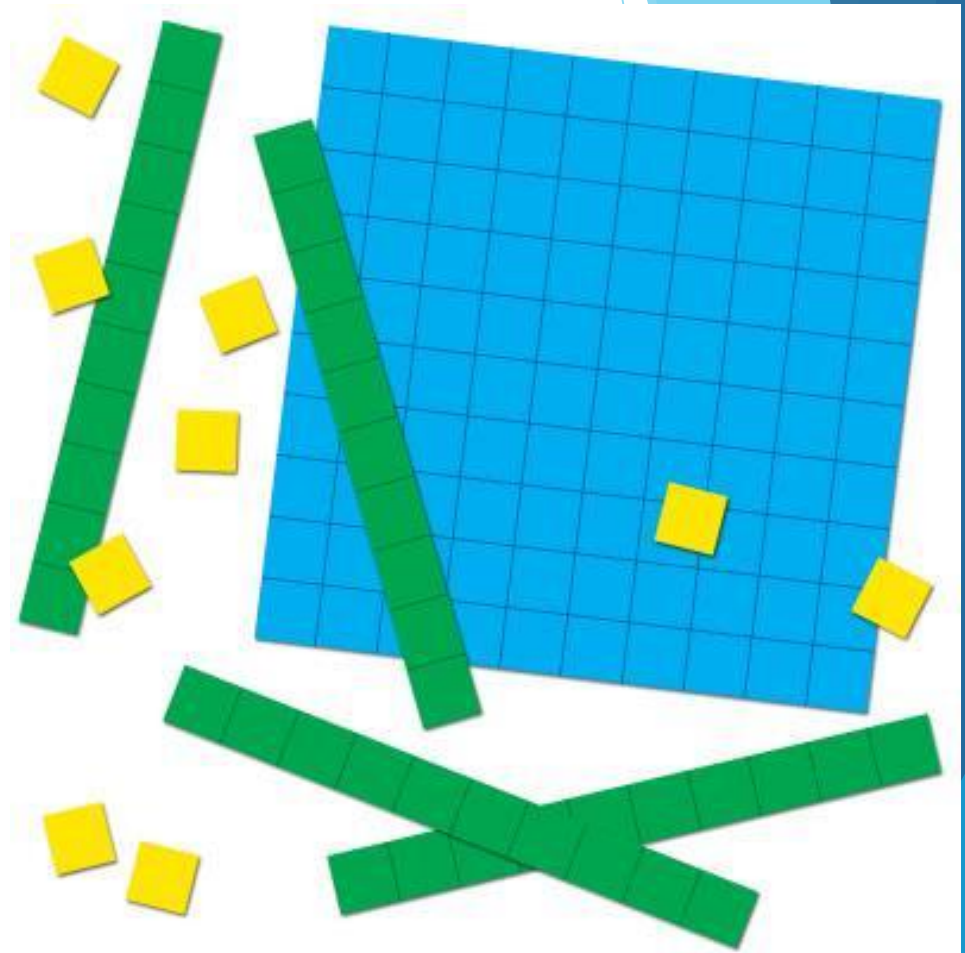


or



# Deines- Tens and Ones

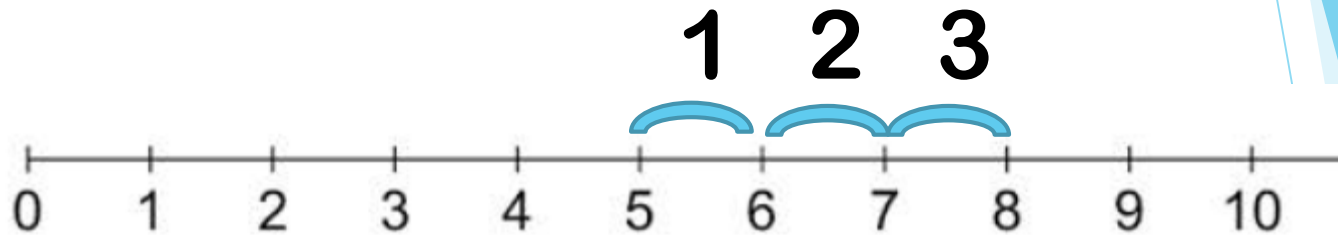
- ▶ Great for building numbers to 100
- ▶ Understanding groups of tens and 'extra ones'





# Number line

► How we use it- ADDITION

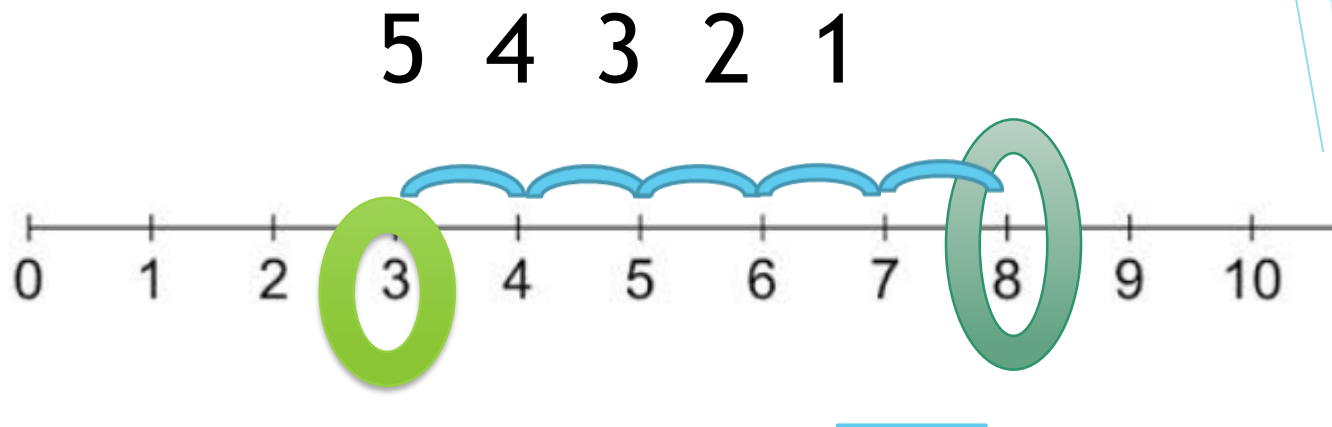


$$5 + 3 = 8$$

Jump forwards

# Number line

► How we use it - SUBTRACTION



$$8 - 5 = 3$$

how many jumps 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
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

# 100 square

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71	72	73	74	75	76	77	78	79	80
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# 100 square

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

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# 100 square

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- ▶ Subtraction
- ▶ Number patterns

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# 100 square

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

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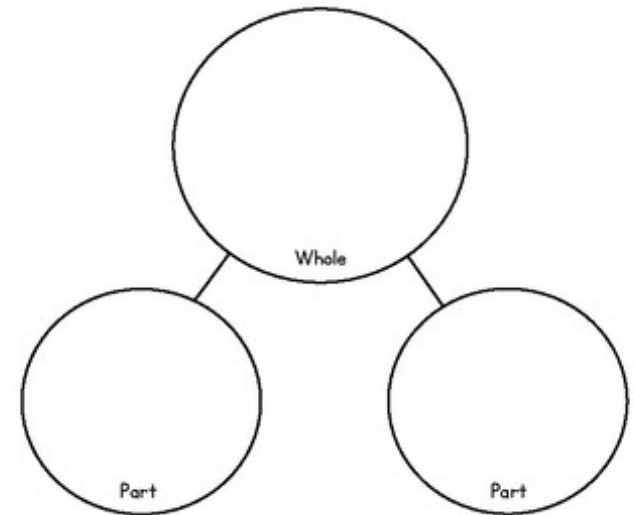
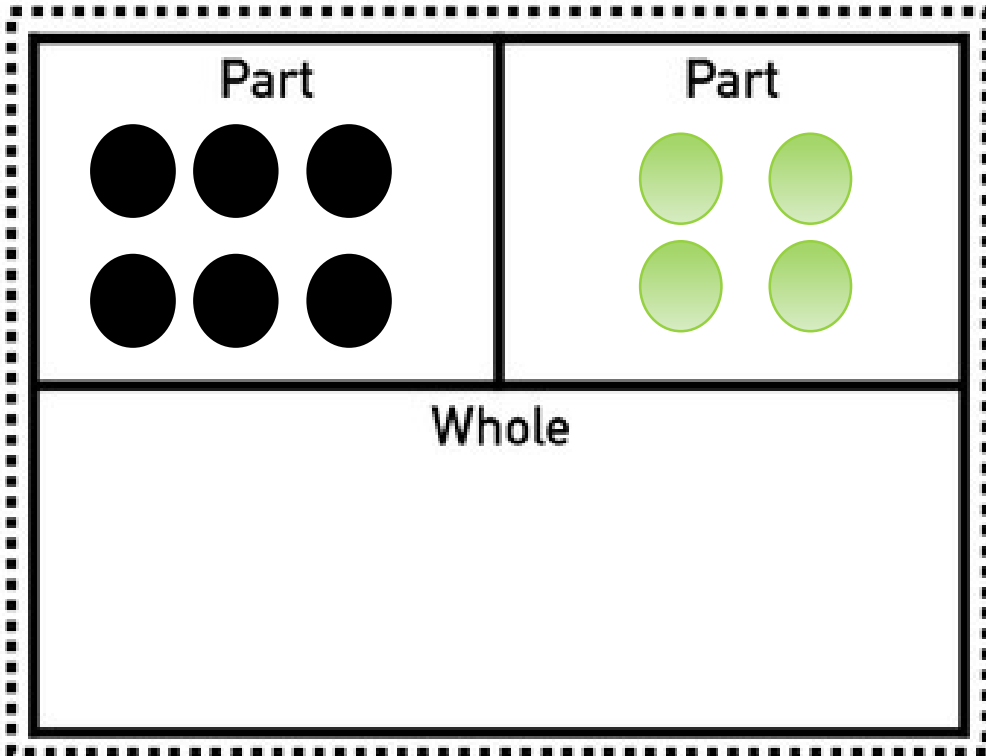
# What Can a 1ME Child Do?

- ▶ Count to 50 confidently and attempt to 100
- ▶ Write numbers with the correct orientation (3,5,7, 9)
- ▶ Use a number line to 30 confidently
- ▶ Start to use a 100 square
- ▶ Name and describe 2D & 3D shapes – **triangle, oblong, cube, sphere**
- ▶ Count in 2s, 10s and 5s
- ▶ Know Number Facts – **doubles, halves to 10, number bonds to 10/20**
- ▶ Solve simple word problems - **Jack has 18 apples. He eats 4. How many left?**
- ▶ Add and Subtract numbers
  - 1 digit to 1 digit –  **$5 + 4 = 9$**
  - Low 2 digit to 1 digit –  **$14 + 4 = 18$**
  - 1 digit from low 2 digit –  **$16 - 3 = 13$**

# Part-Part-Whole

$$6 + 4 =$$

► Addition

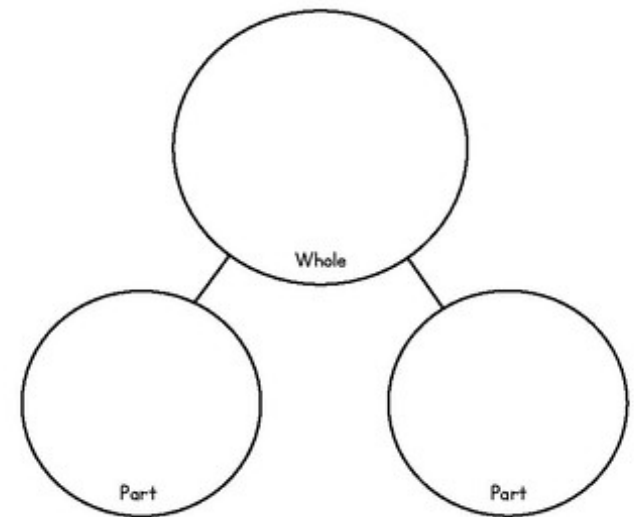
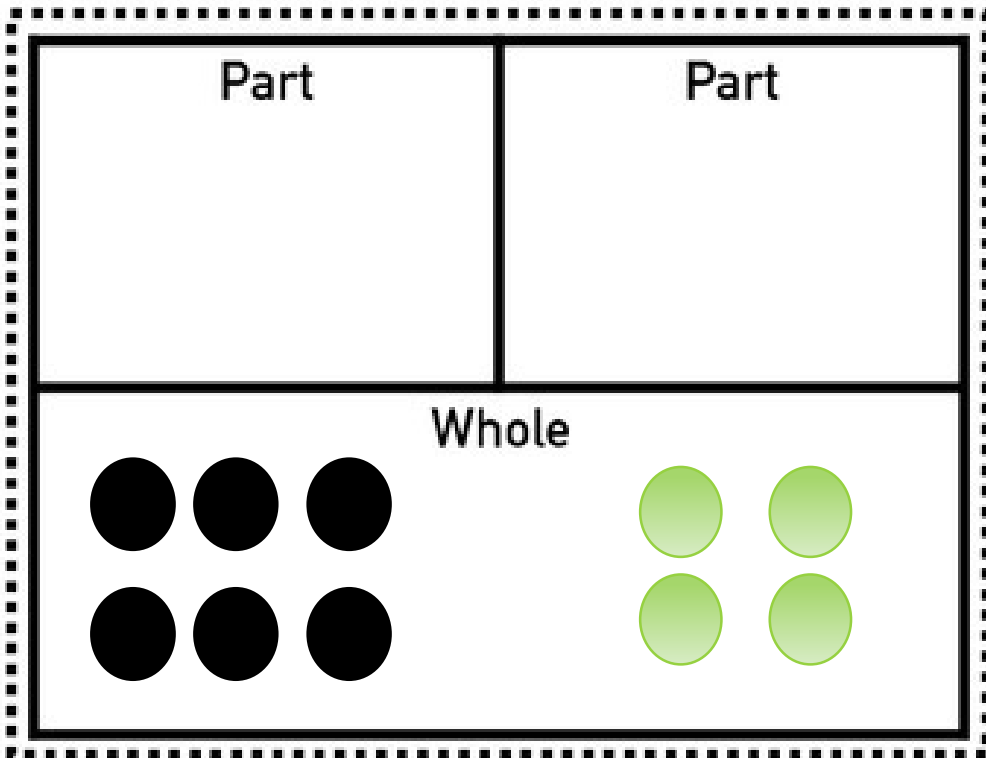




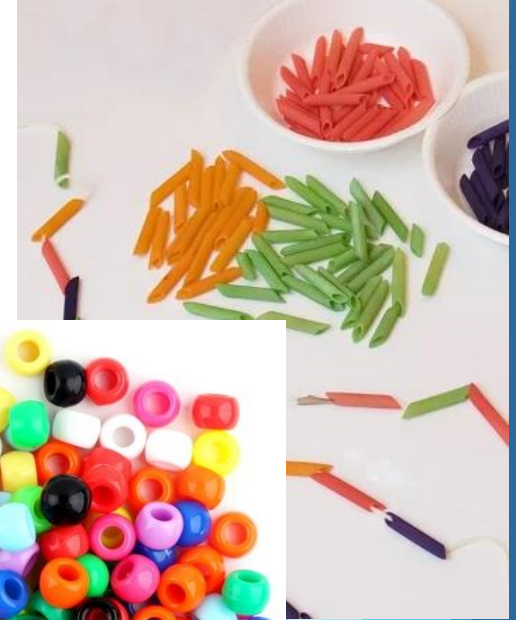
# Part-Part-Whole

$$6 + 4 =$$

- ▶ Addition
- ▶ Subtraction



# 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](http://www.ictgames.com) , [www.kenttrustweb.org.uk](http://www.kenttrustweb.org.uk), [www.woodlands-junior.kent.sch.uk](http://www.woodlands-junior.kent.sch.uk) , [www.kidsmathgamesonline.com](http://www.kidsmathgamesonline.com) ,  
[www.bbc.co.uk](http://www.bbc.co.uk),
- ▶ 100 square patterns / games



# 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?
- ▶ Language - More, less, equal, most , least, same, altogether
- ▶ Talking about 'doubling the recipe' when cooking. Or halving a recipe
- ▶ Or 4 knives and four forks, how much cutlery altogether? How many plates and cups are needed? How many 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.**

How about adding 11?

1	2	3	4	5	6	7	8	9	10
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Questions?

