Challenge, Equality & Opportunity

Maths at Havannah First School

Mastery – What is it?

Mastery in Maths is being able to understand and apply knowledge to different contexts and situations.

It can also be explaining thought processes, as well as, proving and giving reasons for answers.

This approach aims to broaden children's understanding of a concept, enabling them to use what they know in new situations.

Stages of Mastery

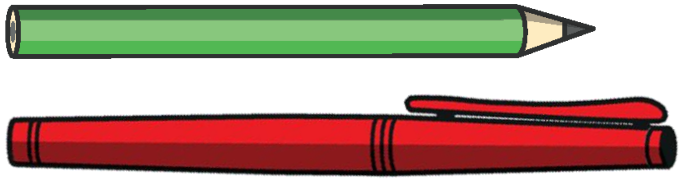
- **Fluency** in Maths happens when children can answer questions accurately using recall of Mathematical facts.

- **Reasoning** is when a child can explain what they have done and why, or prove that something is or isn't correct.

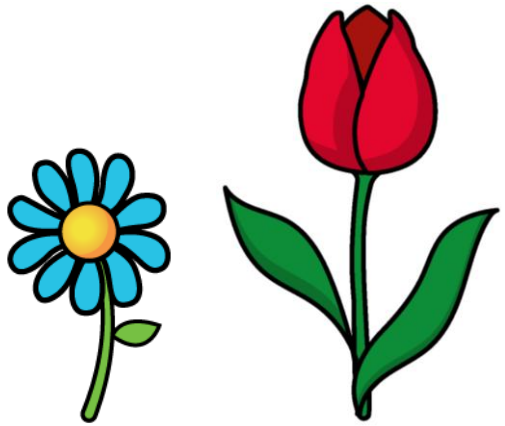
- **Problem solving** is applying their knowledge and understanding to multi-step problems.

Examples of Fluency questions

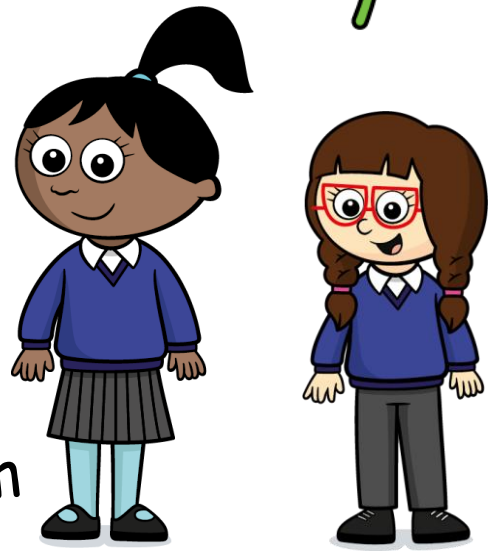
1) Which is longer?



2) Which is taller?



3) Who is shorter?

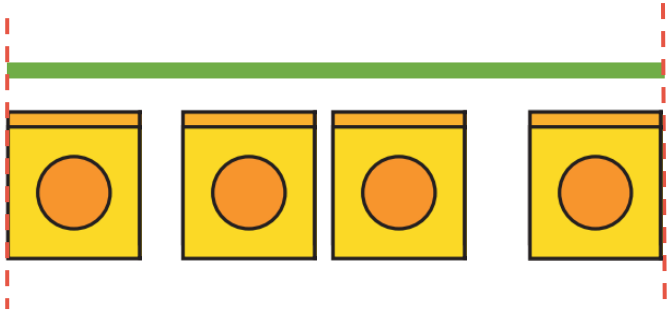


Sam

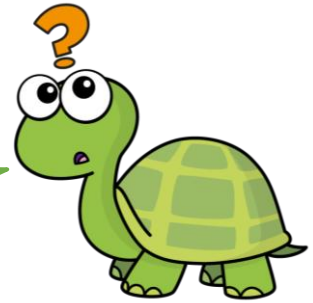
Jo

Examples of Reasoning questions

How long is the line?



The line is 4 cubes long.

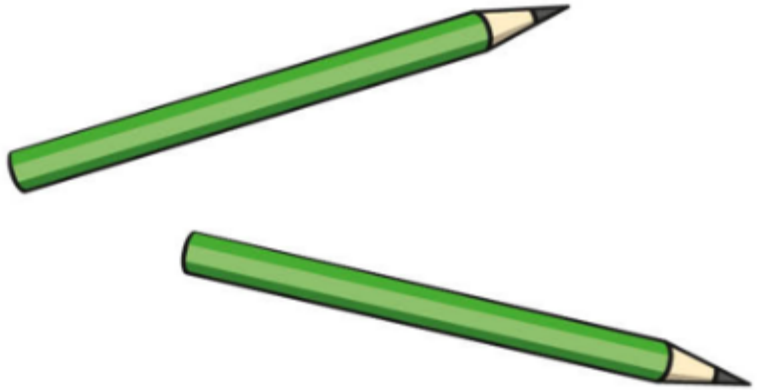


Do you agree with Tiny?

Have a think

Examples of Problem-Solving questions

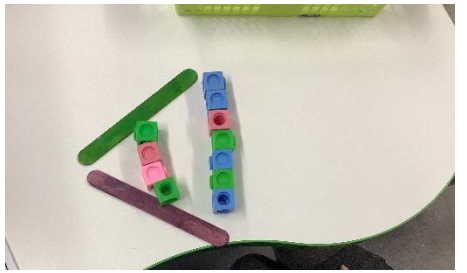
Kay thinks that the pencils are the same length.



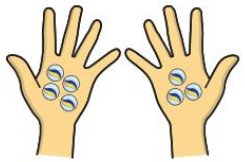
How can Kay check if she is correct?

Stages of Teaching

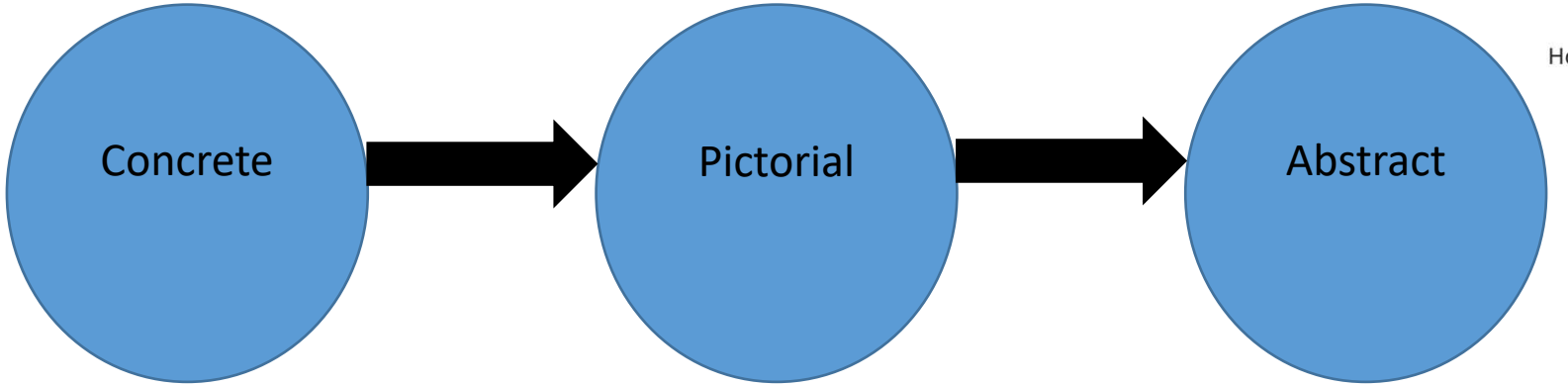
- Maths learning should follow a process, moving through each stage when the child is ready.
- If the child is moved too quickly through the concrete and pictorial stage of their learning, this could affect understanding in later years.

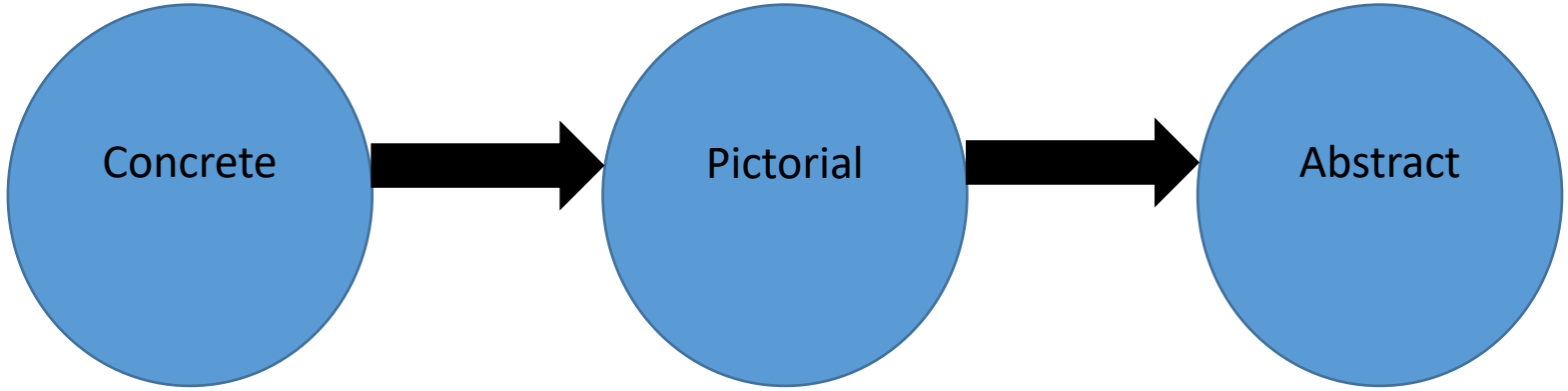


Ron has 4 marbles in one hand.
He has 3 marbles in his other hand.



How many marbles does Ron have in total?





What it is: This is the "hands-on" stage where children use physical objects to represent a problem.

Year 1 example: To teach subtraction, a teacher might give a child 9 blocks and ask them to take away 2 blocks to see how many are left.

Why it's used: This provides a foundational, real-world understanding of the concept before moving to more abstract methods.

What it is: Children move from using real objects to creating representations, such as drawings, diagrams, or pictures.

Year 1 example: After using the blocks, the child would be shown how to draw the 9 blocks and then cross out 2 of them to represent taking away.

Why it's used: This bridges the gap between the concrete and the symbolic, allowing children to visualize the process.

What it is: Children use mathematical notation and symbols (like +, -, x, /) to represent the problem.

Year 1 example: The child will learn to write the calculation "9 - 2 = 7" after understanding the concept through the previous stages.

Why it's used: This is the final stage, where children are using purely symbolic representation. A child will only progress to this stage when they have a solid grasp of the previous two.

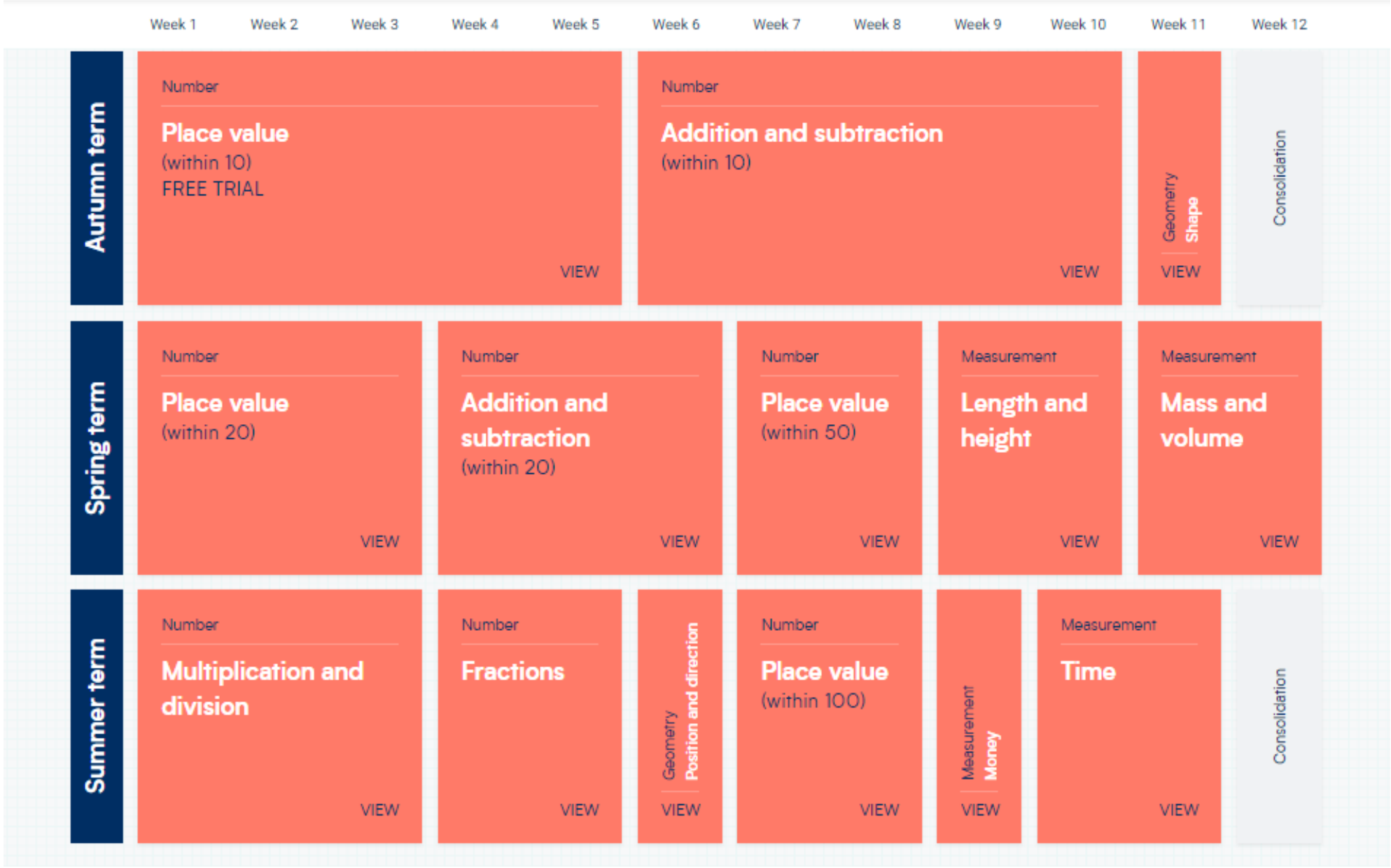
- **How Maths is taught at Havannah**

- In KS1 and 2, Maths is taught 5 times in a week.
- Schemes of learning are based on the White Rose Maths Schemes of Work and support our school's mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum.
- Number is at the heart of our schemes of learning and a significant amount of time is spent reinforcing number in order to build competency and ensure children can confidently access the rest of the curriculum.

- Children stay within the required year group so that they acquire depth of knowledge in each topic.
- Children progress through schemes of learning as a whole group, encouraging children of all abilities to support each other in their learning.
- The vast majority of children progress through the curriculum at a similar pace.

- Questioning, marking and feedback of work helps to identify those children who need further support/to address misconceptions/make corrections.

Long Term Plan for Maths



Small Steps in Maths

Maths Curriculum Map – Year 1

Core Curriculum	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Number: Place Value (within 10) • Sort, count and represent objects • Count, read and write forwards and backwards from any number 0-10 • Count one more and one less • One-to-one correspondence to compare groups • Compare groups using language such as equal, more/greater, less/fewer • Introduce <,> and = symbols • Compare, order numbers and groups of objects • Ordinal numbers (1st, 2nd, 3rd ...) • Use a number line for counting	**Number: Addition and Subtraction (within 10)** • Use a part-whole model • Find number bonds for numbers within 10 • Compare number bonds • Addition-adding together, adding more, finding a part • Subtraction-taking away, how many left? • Subtraction-finding a part, breaking away, counting back, finding the difference • Fact families • Comparing addition and subtraction statements **Geometry: Shape** • Recognise and name 3-D shapes • Sort 3-D shapes • Recognise and name 2-D shapes • Sort 2-D shapes • Make patterns with 2-D and 3-D shapes	**Number: Place Value (within 20)** • Count within 20 Understand 10 Understand 11, 12 and 13 • Understand 14, 15 and 16 • Understand 17, 18 and 19 Step 6 Understand 20 • 1 more and 1 less The number line to 20 • Use a number line to 20 • Estimate on a number line to 20 Compare numbers to 20 • Order numbers to 20 • **Number: Addition and Subtraction (within 20)** • Add by counting on within 20 • Add ones using number bonds • Find and make number bonds to 20 • Doubles • Near doubles Subtract ones using number bonds Subtraction – counting back • Subtraction – finding the difference • Related facts • Missing number problems	**Number Place Value (within 50)** • Count from 20 to 50 • 20, 30, 40 and 50 Count by making groups of tens • Groups of tens and ones • Partition into tens and ones • The number line to 50 • Estimate on a number line to 50 • 1 more, 1 less **Measurement: Length and Height** • Compare lengths and heights • Measure length using objects • Measure length in centimetres **Measurement: Weight and Volume** • Heavier and lighter Measure mass • Compare mass • Full and empty • Compare volume • Measure capacity • Compare capacity	**Number: Multiplication and Division** • Count in 2s, 5s, 10s • Recognise, make and add equal groups • Make arrays • Make doubles • Make equal groups-grouping and sharing **Number: Fractions** • Find halves and quarters in objects, shapes and quantities **Geometry: Position and Direction** • Describe turns and position • Ordinal numbers	**Number: Place Value (within 100)** • Count forwards and backwards within 100 • Partition numbers • Compare and order numbers • One more, one less **Measurement: Money** • Unitising • Recognise coins and notes • Count in coins **Measurement: Time** • Before and after • Days of the week, months of the year • Tell time to the hour and half hour • Compare time

Vocabulary

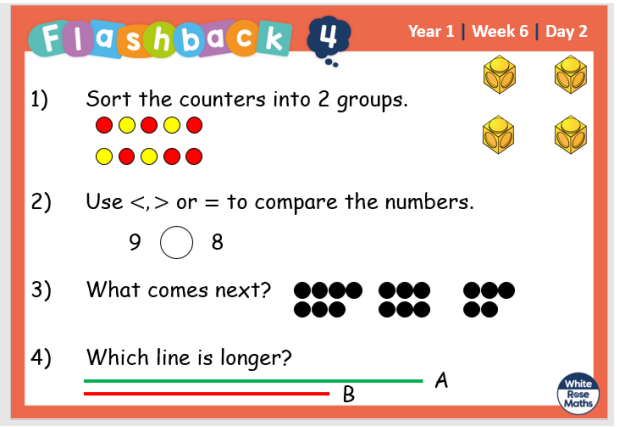
Number and Place value: 20-100 count (on/up/to/from/ down), least, fewest, smallest, greater, lesser, equal to, odd, even, units, tens, ten more/less, digit, numeral, figure(s), compare (In) order/a different order, size, value, between, halfway between, above, below.

Addition and subtraction: number bonds, addition, plus, sum, greater, inverse, near double, halve, is the same as, (including equals sign), difference between, how many more to make..?, how, many more is…than..?, how much more is..? subtract, minus, how many fewer is…than..?, how much less is..?

A typical Maths lesson at Havannah First School

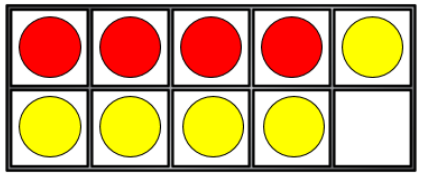
Each Year 1 lesson typically follows the following format:

1. Flashback 4 (Daily retrieval – questions based on last lesson, last week, two weeks ago and further back)
2. A talk activity – what do the children know. Building on previous knowledge.
3. A starter activity – practice skills needed for main activity and an introduction to key vocabulary.
4. A range of questions which develop reasoning skills and independent use of strategies
5. Independent Practice – Fluency/Reasoning and Problem Solving questions in book.
6. Recap of lesson/True or False Question.



There are four red cars and five yellow cars in a car park.
How many cars are there altogether?

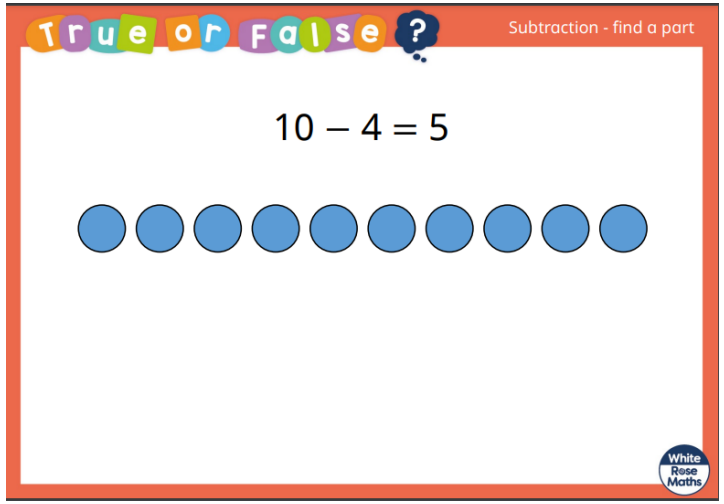
9 cars

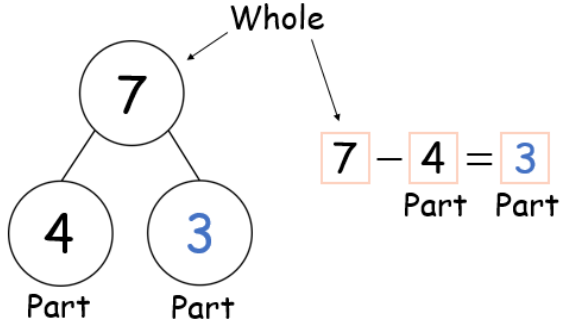


4 + 5 = 9

There is one space so there must be 9 cars in total.

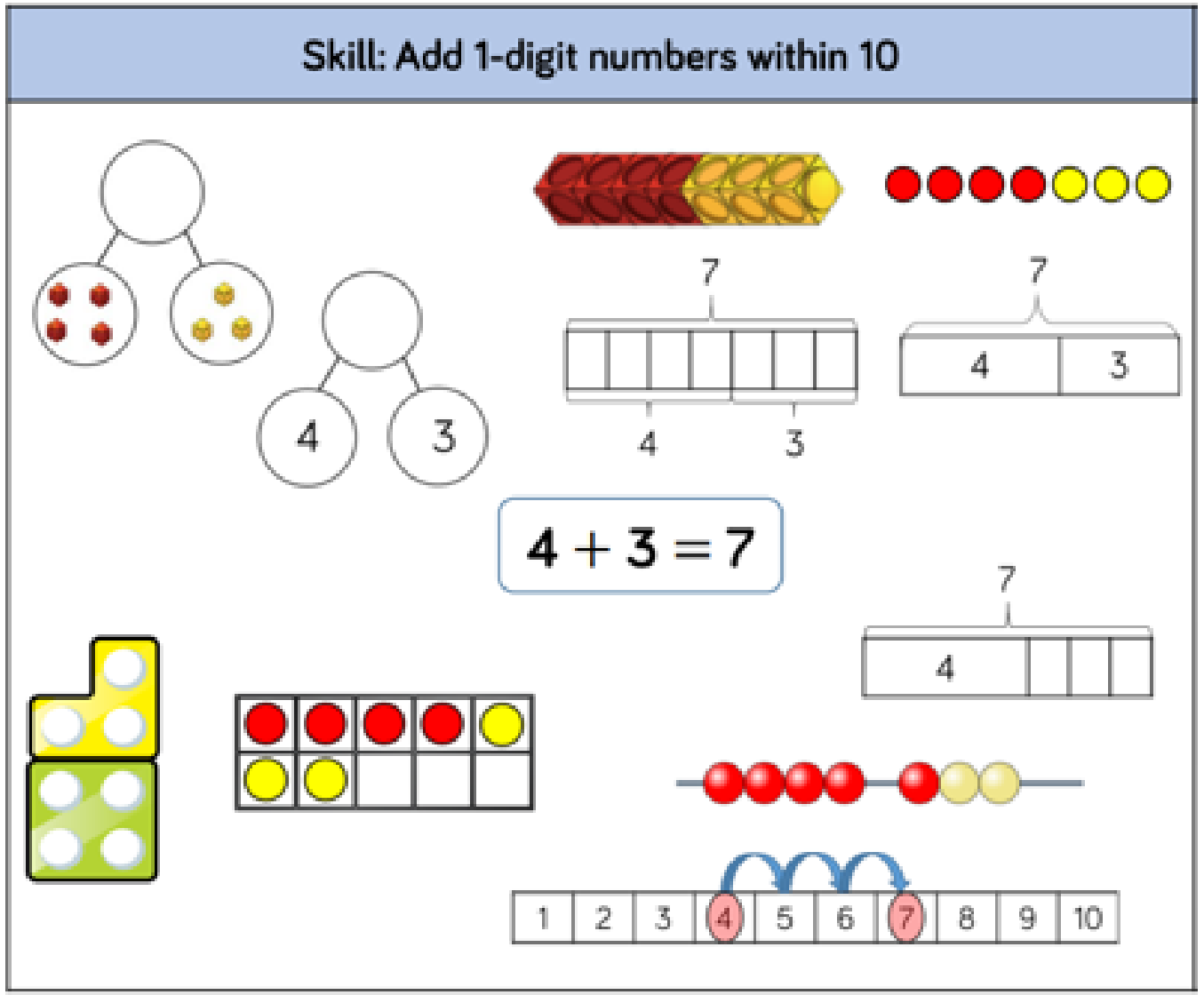






whole – part = part

Example of Year 1 – teaching strategies for adding 1-digit numbers within 10

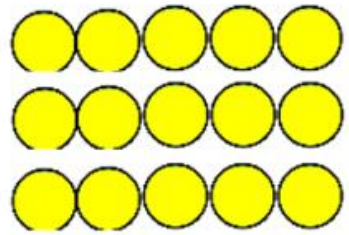


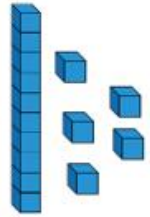
"Show me 15"

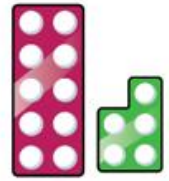
15

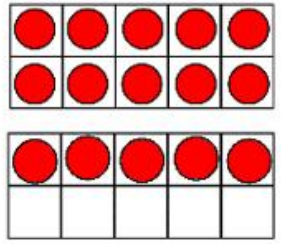










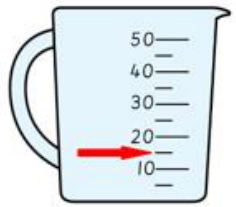


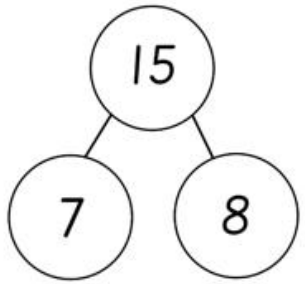


fifteen



15cm



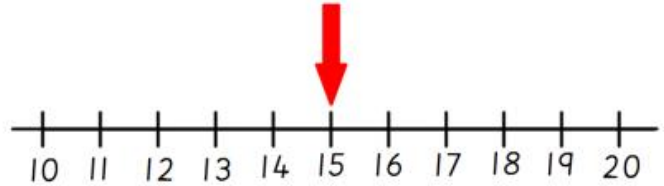










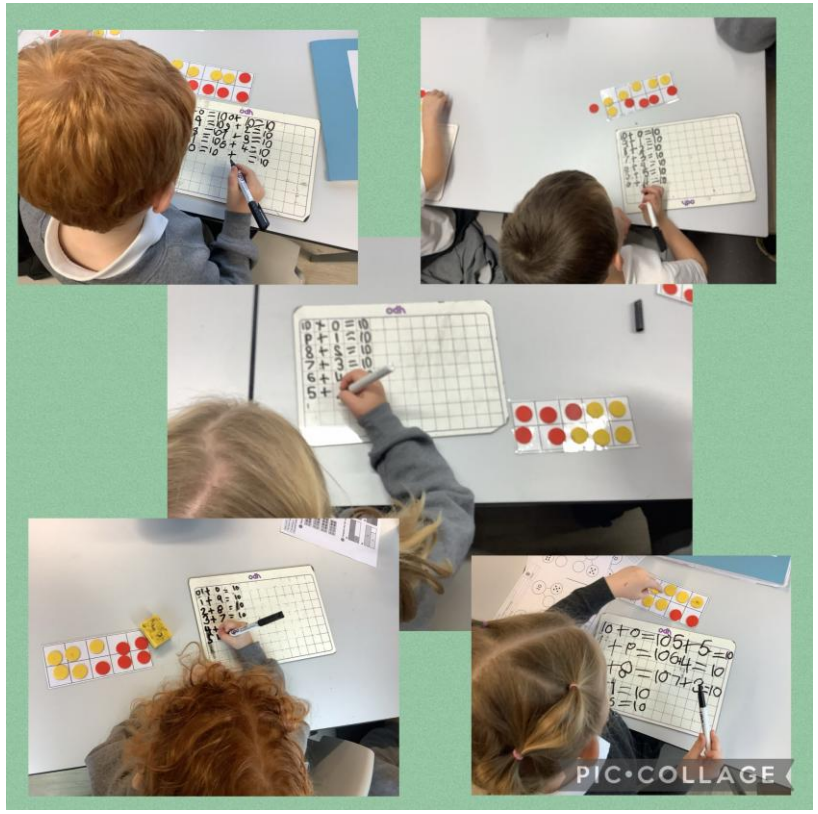


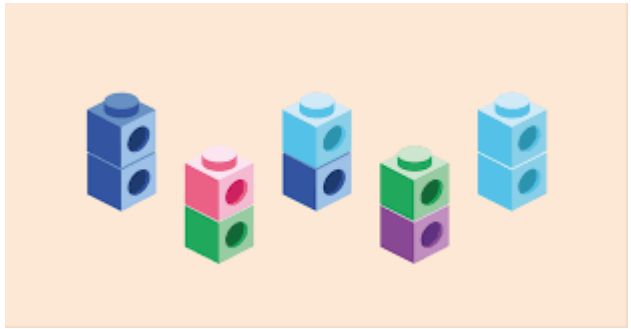
Manipulatives we use in school to aid our learning

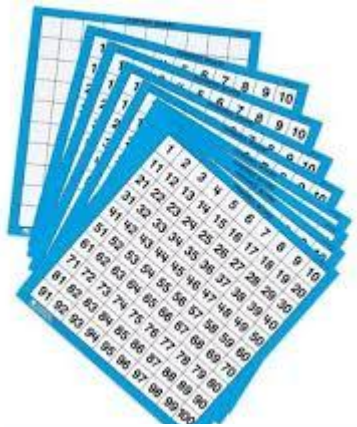


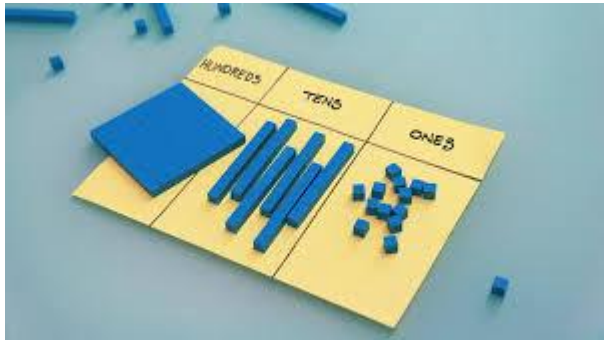


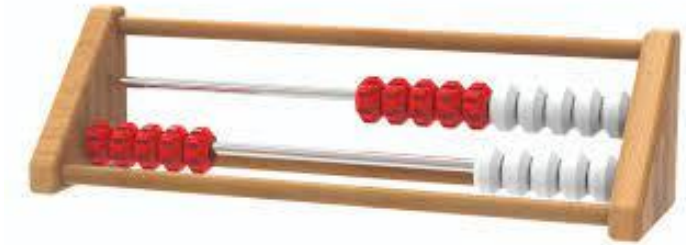














Havannah First School



Helping your child at home…

- Point out that Maths is all around us in everyday life. Include your child in activities involving numbers and measuring, such as shopping, cooking and travelling – telling the time, managing money etc...

- When you look around, everything is made out of shapes. Children could identify car wheels as circles, windows as rectangles and even tiles as hexagons or whatever shape they may be!

- Games are a great way to bond with your children, but also many games use mathematical and logical skills that your children will need in later life. Even a simple jigsaw puzzle helps children to develop logical and spatial awareness skills. Furthermore, games like snakes and ladders enable children to count the rolls of the dice, which helps develop their counting skills.



Useful websites:

Hit the Button - Quick fire maths practise for 6-11 year olds – Topmarks

Today's Number - Up to 20 – Topmarks

Other useful resources available on sites like Amazon:

Dot to Dot books
Shut the Box
Top Trumps
Snakes and Ladders

You can also make your own matching games using number bonds to 10 or other relevant objectives.

- Find out more about our work on the school website or at : www.whiterosemaths.com

- Download the White Rose '1-Minute Maths' app

– great for fluency in number facts and FREE.

Thank you for attending – if you have any questions then please do get in touch with the class teacher, Mr Burnett, our Maths Lead or visit the curriculum section on our website and follow the links to maths.