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

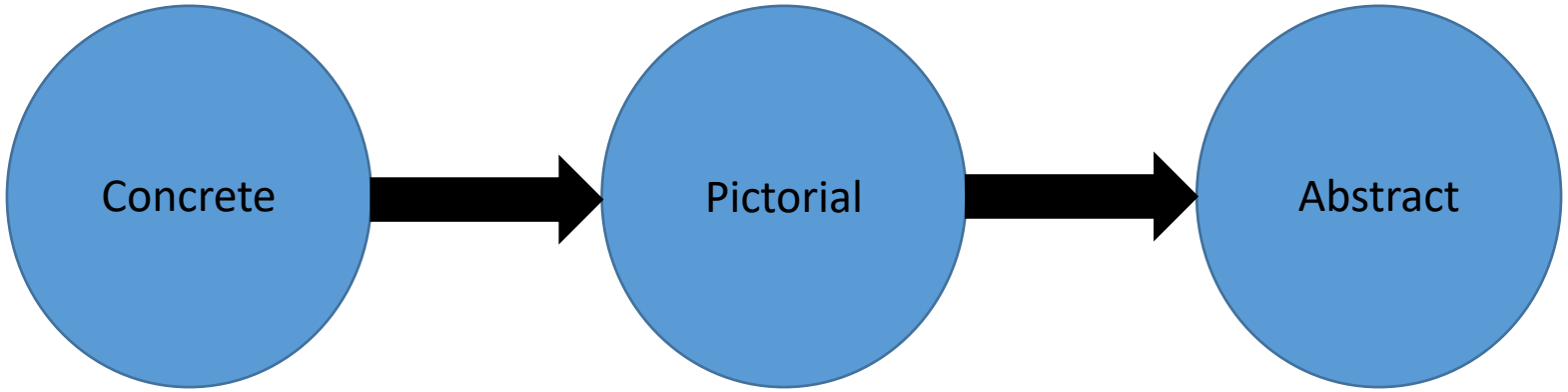
- **Fluency** in Maths happens when children can answer questions accurately using recall of Mathematical facts.

- **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.

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.



- **How Maths is taught at Havannah**

- In Key Stage Two, 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 allow and ensure children can confidently access the rest of the curriculum.
- We aim for children to stay within the required Key Stage so that children acquire depth of knowledge in each topic.
- Opportunities to re-visit previously learnt skills are built into planning.
- Children can 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, provides opportunities to address misconceptions and also allows children to make corrections or complete next step challenges. This allows the vast majority of children to continue to work at a similar pace.

Long Term Plan for Maths

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value				Number: Addition & Subtraction			Measures: Area	Number: Multiplication and Division			Consolidation Assessment
Spring	Number: Multiplication and Division			Measurement: Length and Perimeter	Number: Fractions					Number: Decimals		Consolidation Assessment
Summer	Number: Decimals		Measurement: Money		Measurement: Time		Consolidation x tables	Geometry: Properties of Shape		Statistics	Geometry: Position and Direction	Consolidation Assessment

Small Steps in Maths



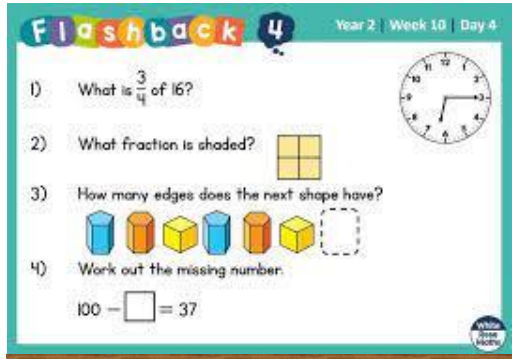
What does Maths Mastery look like in our lessons?

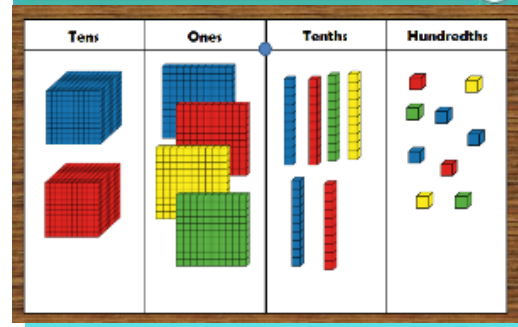
- We break the learning down into ‘thinkable’ chunks or **small steps**. We ensure that each step is mastered before moving on.
- We **revisit** and **build** on **previous** learning, developing **fluency**.
- We use **representations** **and** **equipment** to draw out mathematical understanding.
- We provide opportunities to **reason** and make **connections** – this helps pupils to remember.
- We **include** all learners.

A typical Maths lesson at Havannah First School

Each KS1 and 2 lesson typically follows the following format:

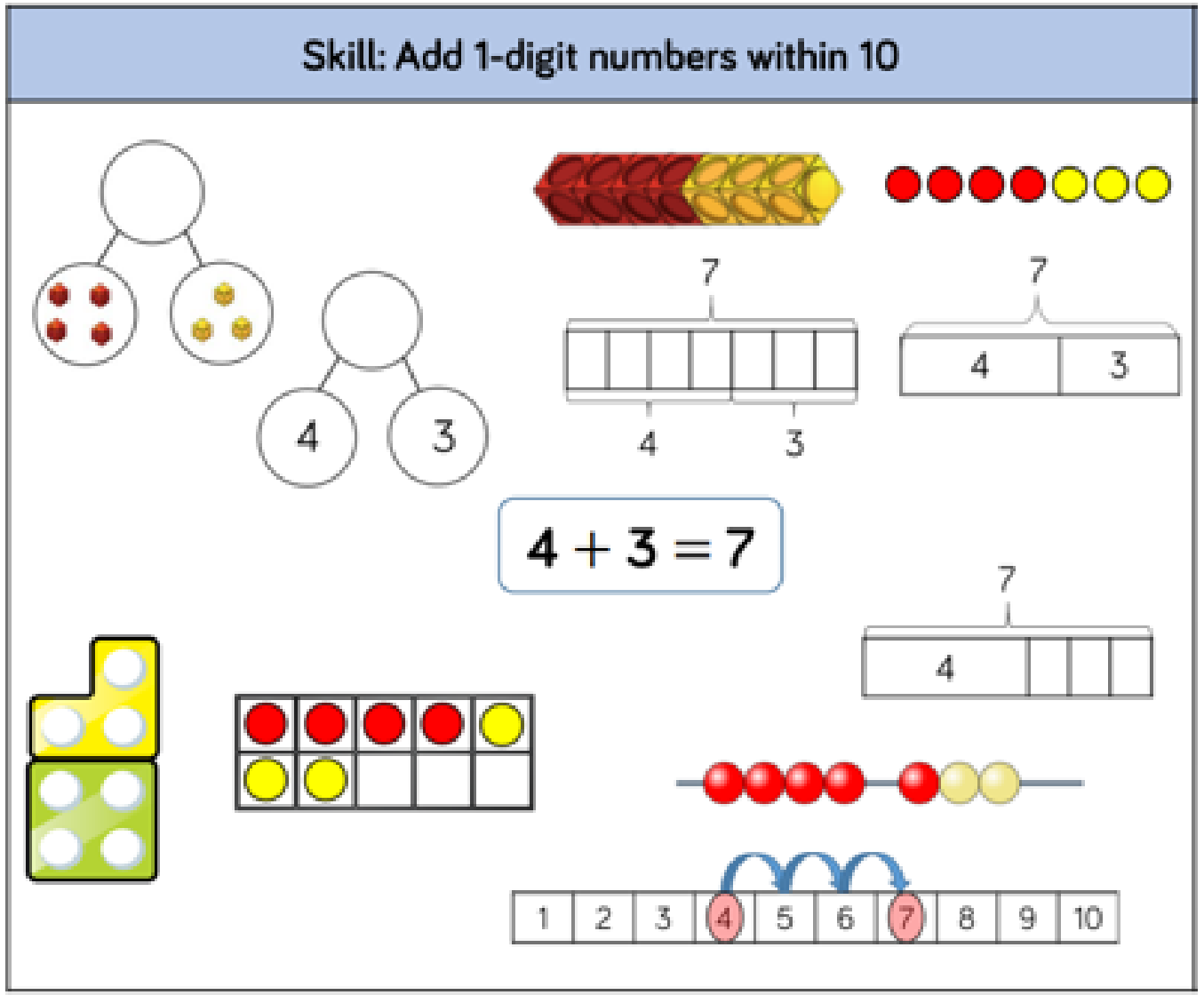
1. Flashback 4 (Daily retrieval – questions based on last lesson, last week, two weeks ago and further back)
2. A starter activity – practice skills needed for main activity and an introduction to key vocabulary.
3. A talk activity – what do the children know. Building on previous knowledge.
4. An open questioning task - to engage all learners (discussion of strategies)
5. A misconception question – a question that shows a common misconception related to the small step.
6. A range of questions which encourages reasoning/strategies – e.g. How do you know? What's the same and what's different, missing lengths or representations, True or False etc…
7. Independent Practice – Fluency/Reasoning and Problem Solving questions in book.
8. Recap of lesson/Self marking and discussions.
9. Maths Blast (KS2) - Fast recall (retrieval) of previous term's content (knowledge and skills).



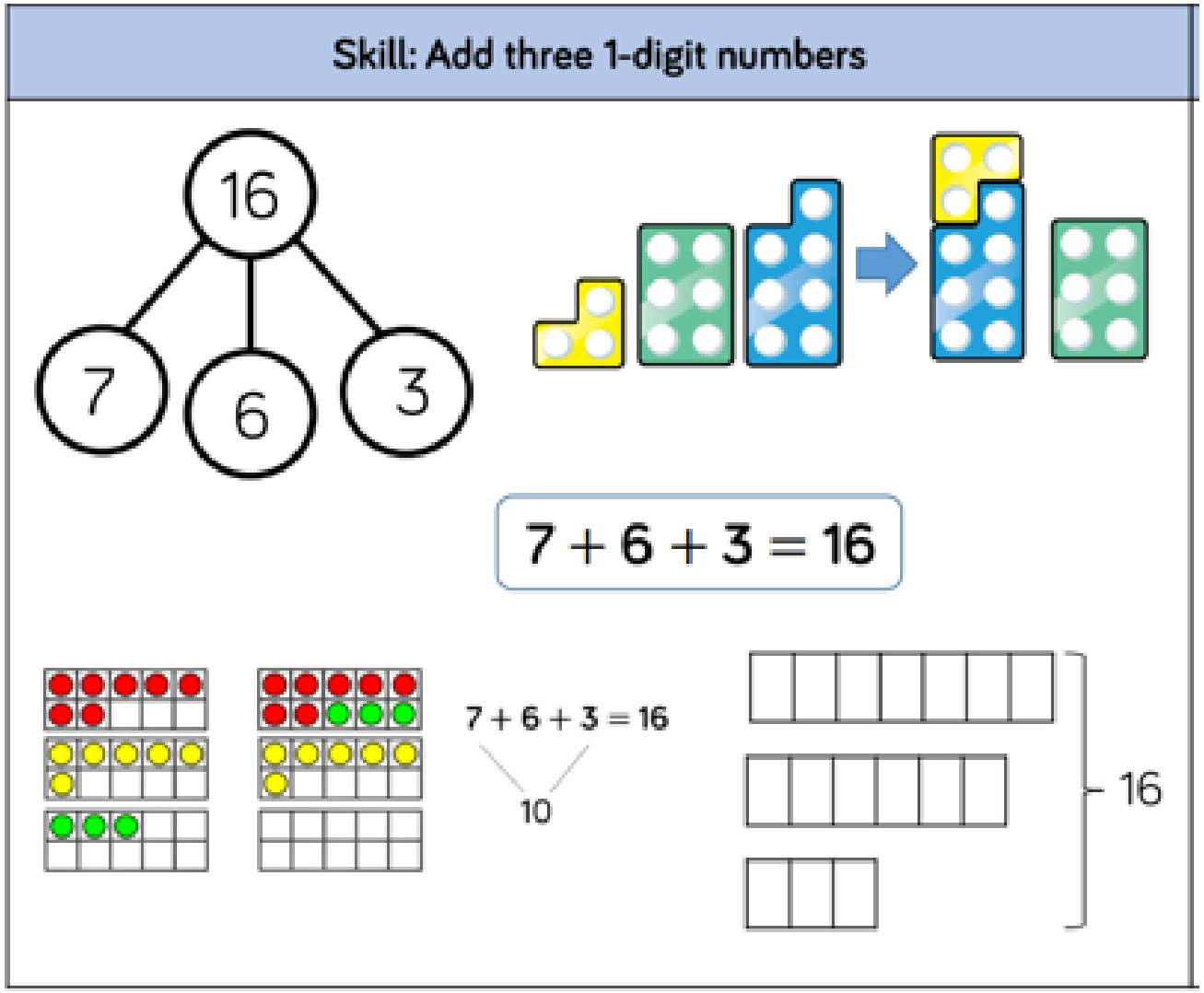




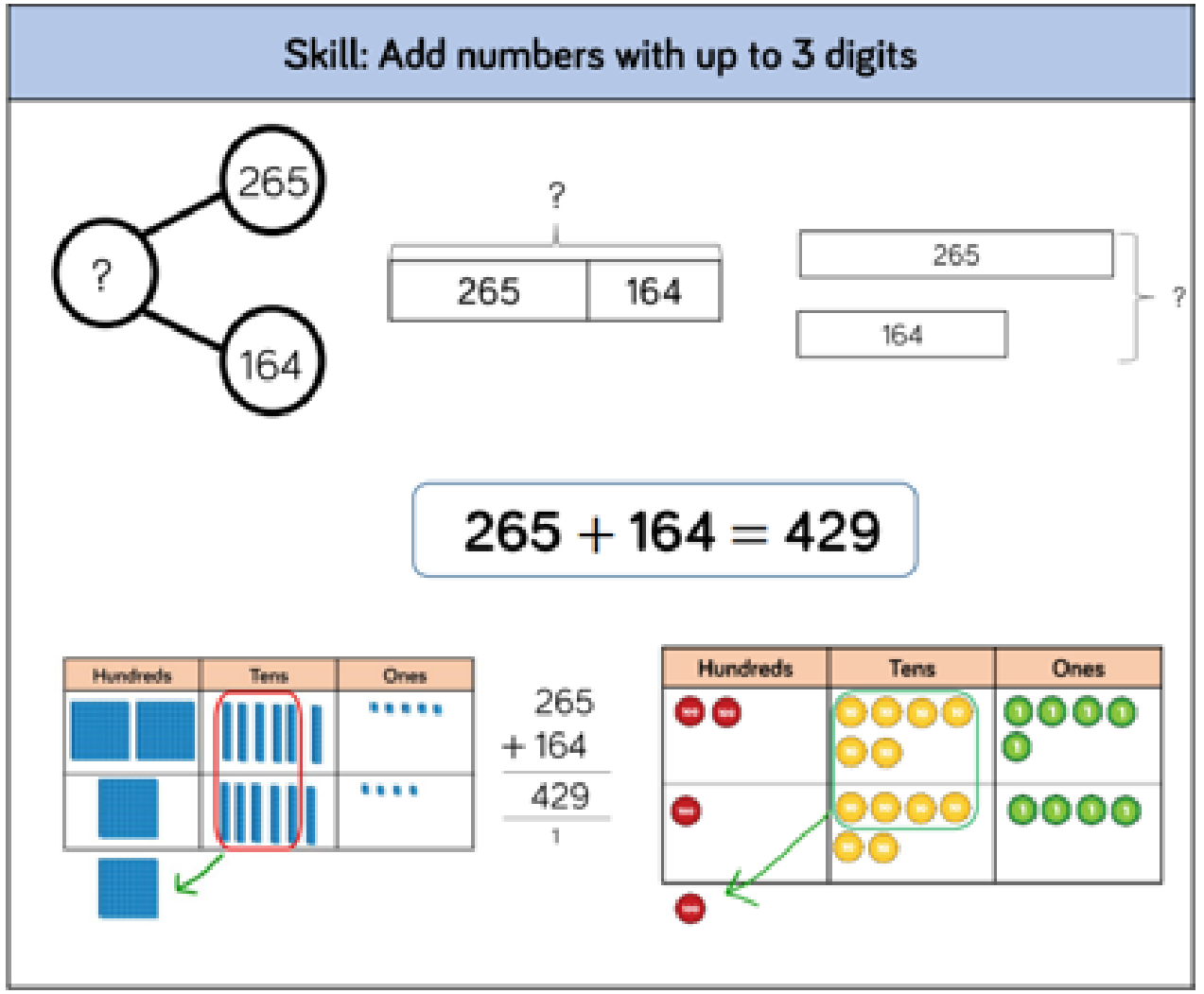
Example of Year 1 – teaching strategies for adding 1-digit numbers within 10



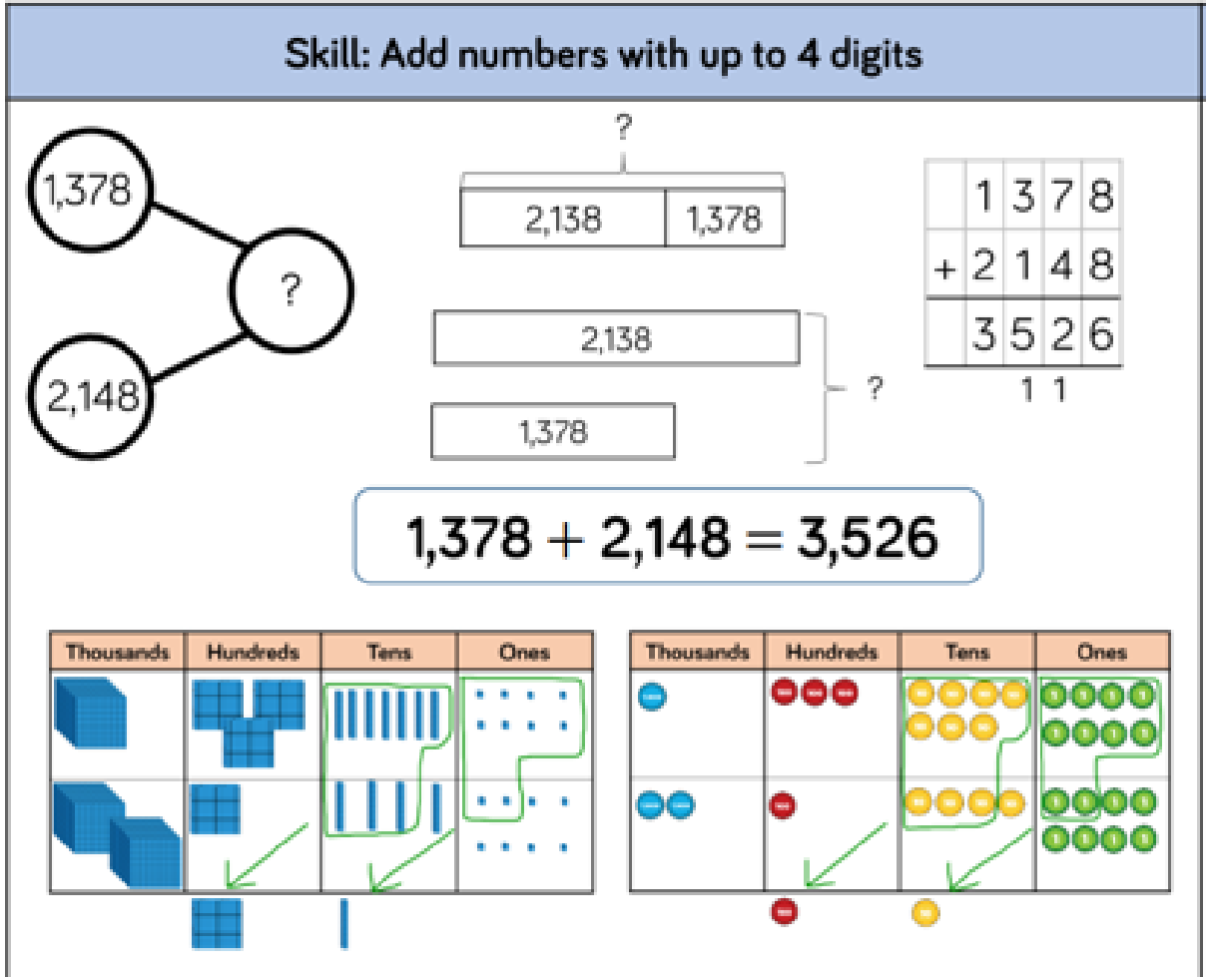
Example of Year 2 – teaching strategies for adding three 1-digit numbers



Example of Year 3 – add numbers with up to 3 digits



Example of Year 4 – add numbers with up to 4 digits



Let's practise!

3724 + 2419

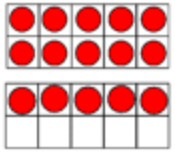
8063 – 3527

47 x 4

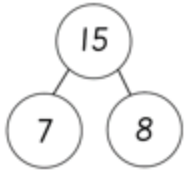
97 ÷ 4

Key Representations

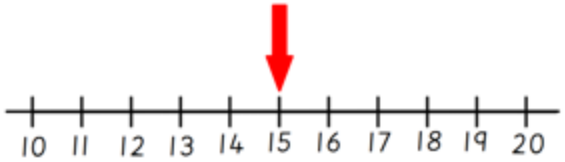
Tens frame



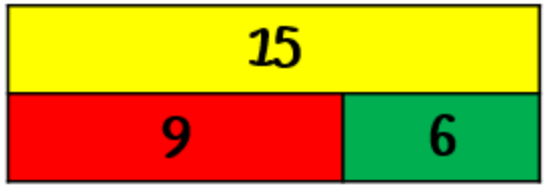
Part-whole model



Number line



Bar model



Place value grid and counters



Embedded and understood in KS1 and built on in KS2

Manipulatives we use in school to aid our learning

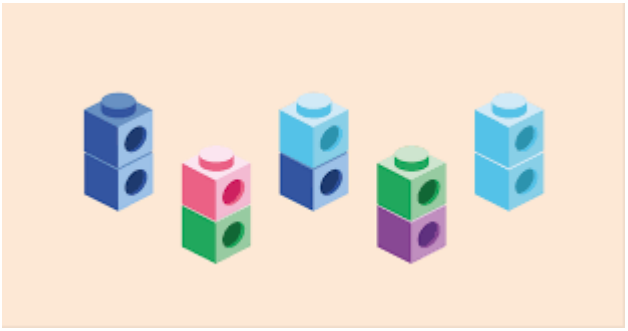


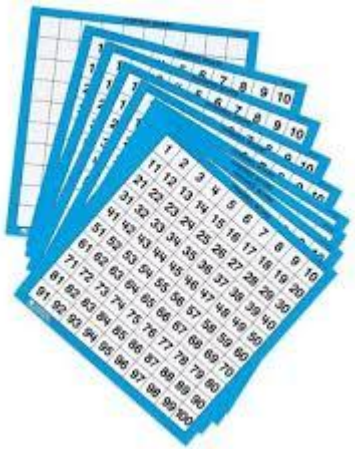


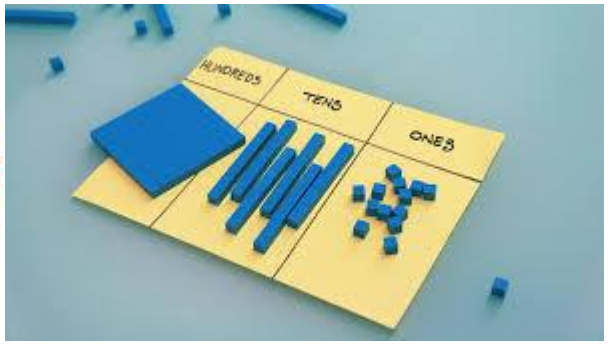
















Helping your child at home…

- Have a positive mindset about Maths!
- Use maths talk everyday – two easy concepts to develop with your children are doubling/halving and adding/subtracting. Again, you could use physical objects such as food to reinforce this. It's as simple as asking your child to count the number of chicken nuggets or peas (or any other food!) on their plate at dinner time. and then you can ask them things like:
- "If I doubled the number of chicken nuggets on your plate right now, how many would you have?"
- "If I ate half the peas on your plate for you, how many would you have left?"
- "If we added all of my chicken nuggets to your chicken nuggets, how many would we have altogether?"
- Point out the 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...
- 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
- When you look around, everything is made out of shapes. So why not encourage your children to learn the names of shapes when you're out and about to entertain them? They could identify car wheels as circles, windows as rectangles and even tiles as hexagons or whatever shape they may be!

- Encourage your child to use the computer for educational purposes – have a look on our school website for suggested websites to visit.

- 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.

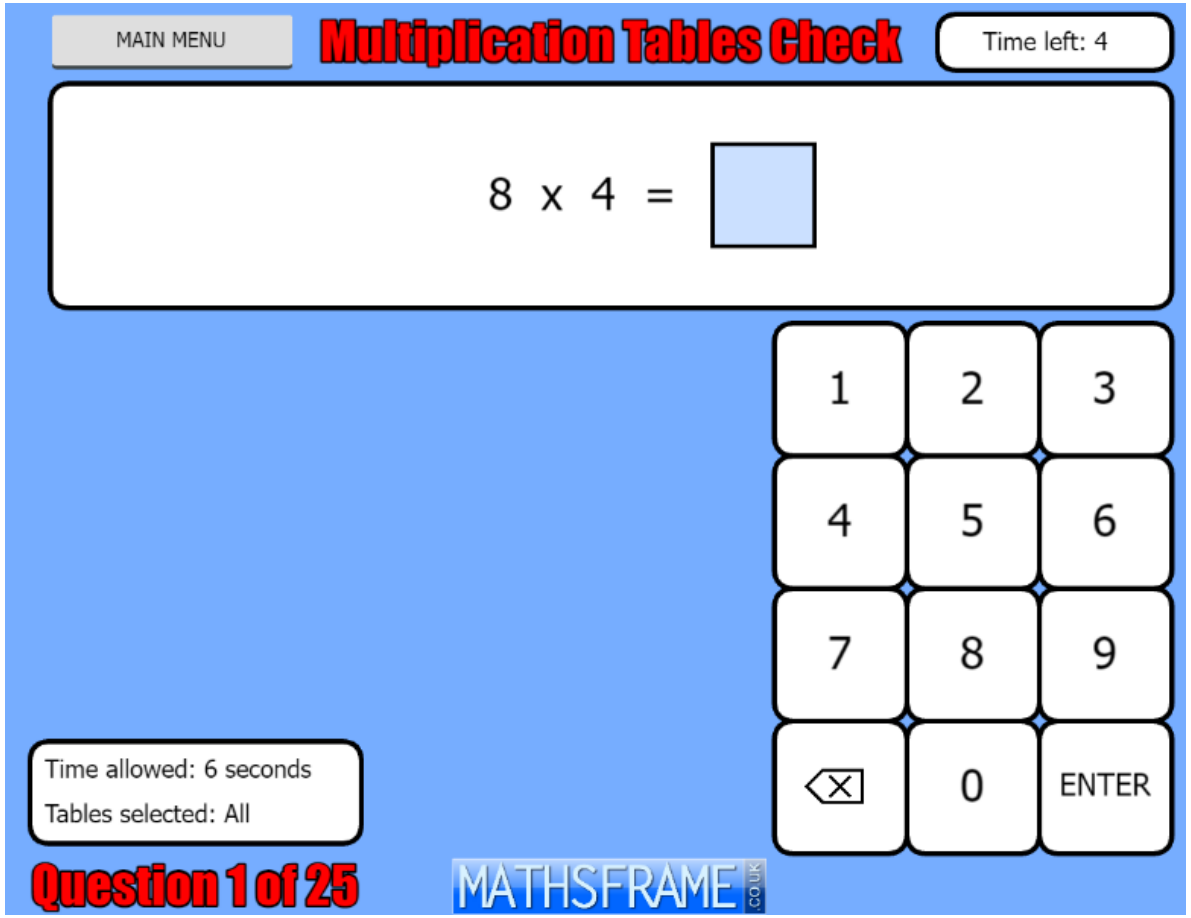
- As everybody knows, it's essential for children to learn their times tables in order to access harder maths questions. This is an easy thing for parents to practise with their children - sneak it in when they're bored! Make car journeys go by faster or distract them on the bus by asking times tables questions. Challenge them to say their times tables backwards if they get bored of reciting them.
- Access Times Tables Rockstars in Years 3 and 4



- If you find that your child needs to challenge themselves more, or gets bored easily. Explore websites such as NRICH (http:// nrich.maths.org/) or Transum (http://www.transum.org/).

Multiplication Tables Check…

In the first couple of weeks of June, most children will be completing the multiplication tables check. Therefore, we would be extremely grateful if you could practise multiplication tables up to 12 x 12 with your child at home as often as possible. In the check, there will be 25 times table questions and children will get 6 seconds to answer each question. We'd recommend using Times Table Rockstars, Hit the Button and Maths Frame daily!



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

