# Year 3 and 4 - Maths workshop

# Aims of today

- To get an insight into how Maths is taught at Albrighton primary school.
- To take away some ideas to support your children at home
- Times table support
- Understanding of mastering number

# Aims of the Curriculum

- **Fluent recall** of **mental maths facts** e.g. Times tables, number bonds, etc.
- To **reason** mathematically – children need to be able to **explain** the mathematical concepts with number sense; they must explain **how** they got the answer and **why** they are correct.
- **Problem solving** – applying their skills to real-life contexts.

## Lower key stage 2 – years 3 and 4

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

# Fluent recall of mental maths facts

This is the ability of students to quickly and accurately recall key mathematical facts from memory, without needing to use written methods or calculators. These "mental maths facts" are the foundational number facts that students need to know by heart, and they help build the basis for more complex calculations and problem-solving.

**Why is it important?**

Fluent recall helps children solve maths problems more quickly and confidently. When they can recall basic number facts automatically, it frees up mental energy to focus on solving more complex problems or applying their knowledge to new tasks.

# Fluent recall of mental maths facts

**Key aspects of "fluent recall" include:**

1. **Addition and Subtraction Facts**:
   - Quick recall of number bonds (e.g., 7 + 3 = 10, 15 - 7 = 8) within 20.
   - Understanding and recalling subtraction facts to 20.
2. **Multiplication and Division Facts**:
   - Knowing the times tables for 2, 3, 4, 5, 8, and 10.
   - Being able to recall multiplication and division facts, such as 4 × 6 = 24 and 24 ÷ 6 = 4.
3. **Number Patterns**:
   - Recognizing number patterns (like counting in steps of 2, 5, or 10) and applying them quickly.
4. **Quick Mental Calculations**:
   - Being able to add or subtract simple numbers mentally, such as 35 + 17 or 58 - 22, without using paper or a calculator.

# To **reason** mathematically

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**Key elements of reasoning mathematically include:**

1. Explaining Methods
2. Understanding Concepts (Number Sense)
3. Justifying Answers
4. Using Mathematical Language
5. Exploring Different Approaches

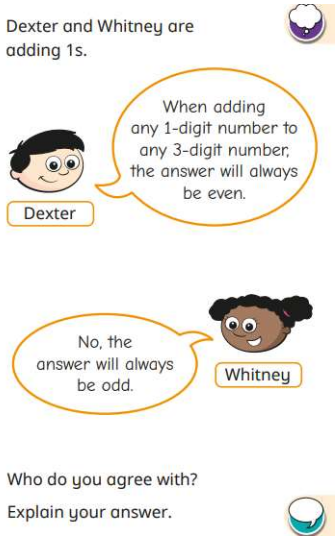
**Problem solving** – applying their skills to real-life contexts.

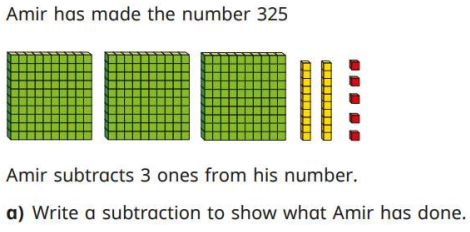
**What it means:**

1. **Real-World Applications**
2. **Practical Problems**
3. **Developing Critical Thinking**
4. **Connecting Math to the World Around Them**

# White rose maths

- At Albrighton we teach the curriculum using White Rose Scheme – this helps us to incorporate the key aims of the curriculum
- This scheme allows the children to work through maths using practical, pictorial and abstract approaches.
- It then progresses into reasoning and problem solving



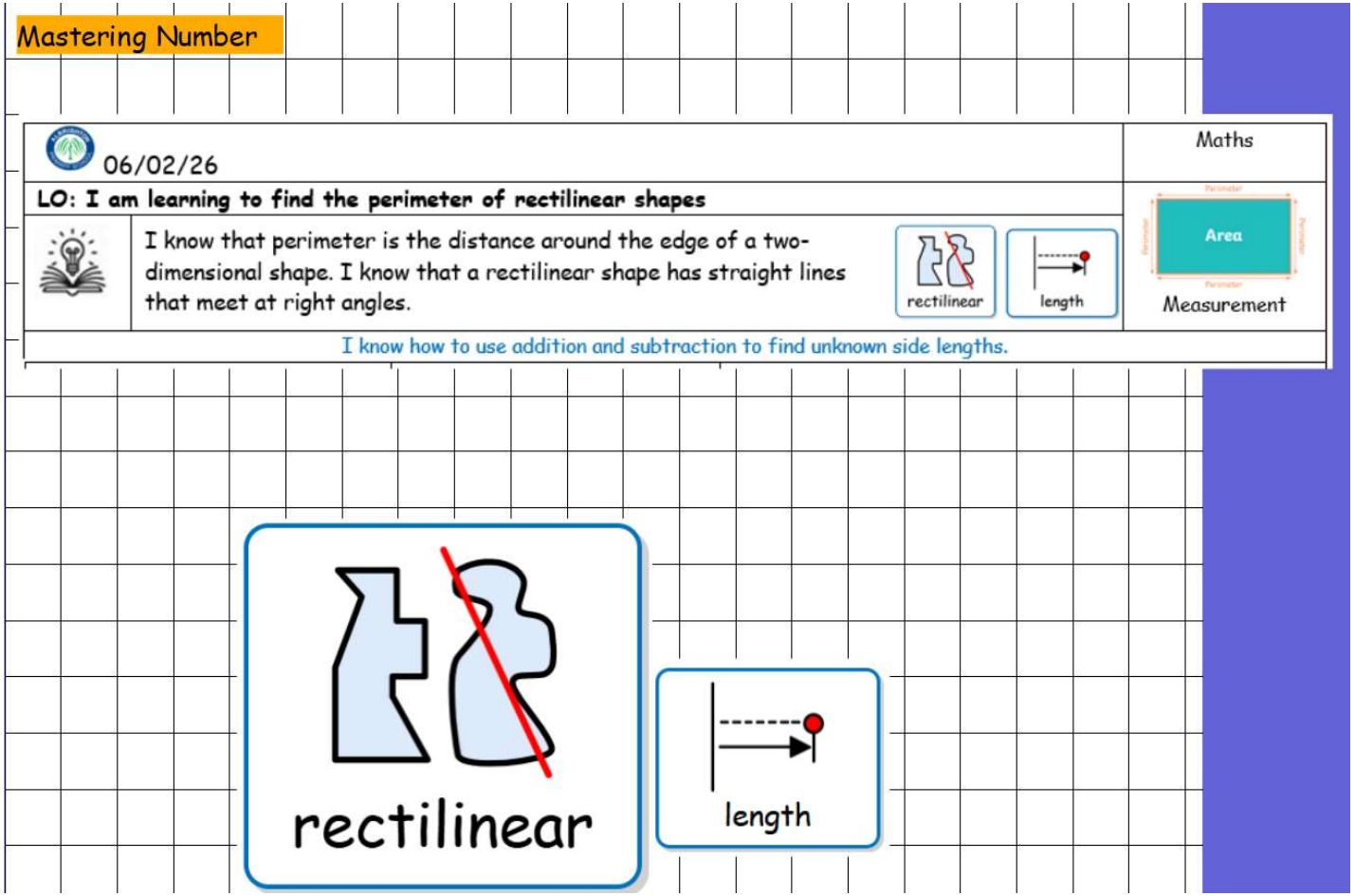

a) 276 + 3 = ☐

b) 276 − 4 = ☐

g) ☐ = 625 + 3

h) ☐ = 488 − 7

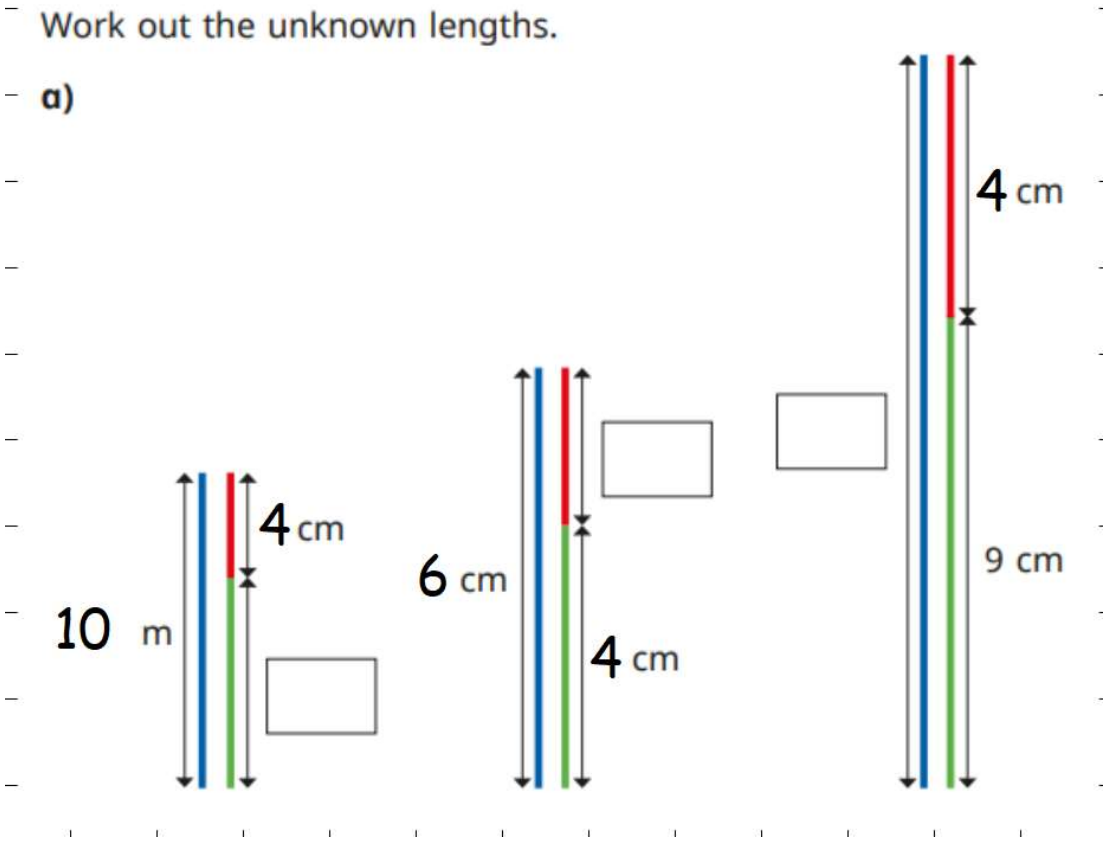
# Example Lesson



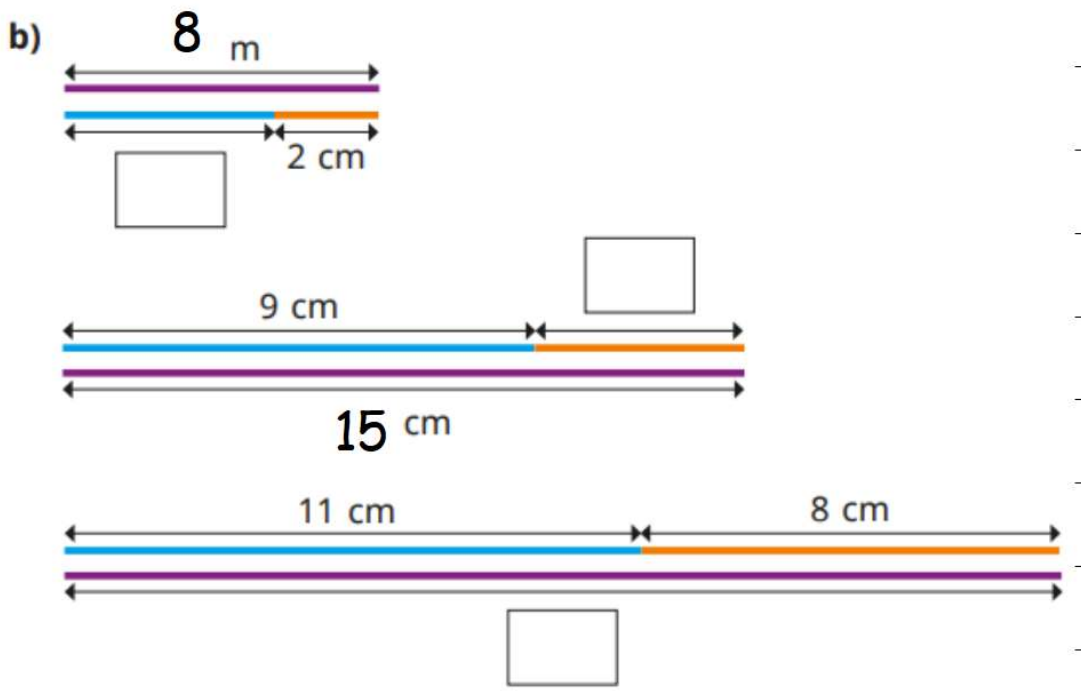
Whole class examples

Work out the unknown lengths.

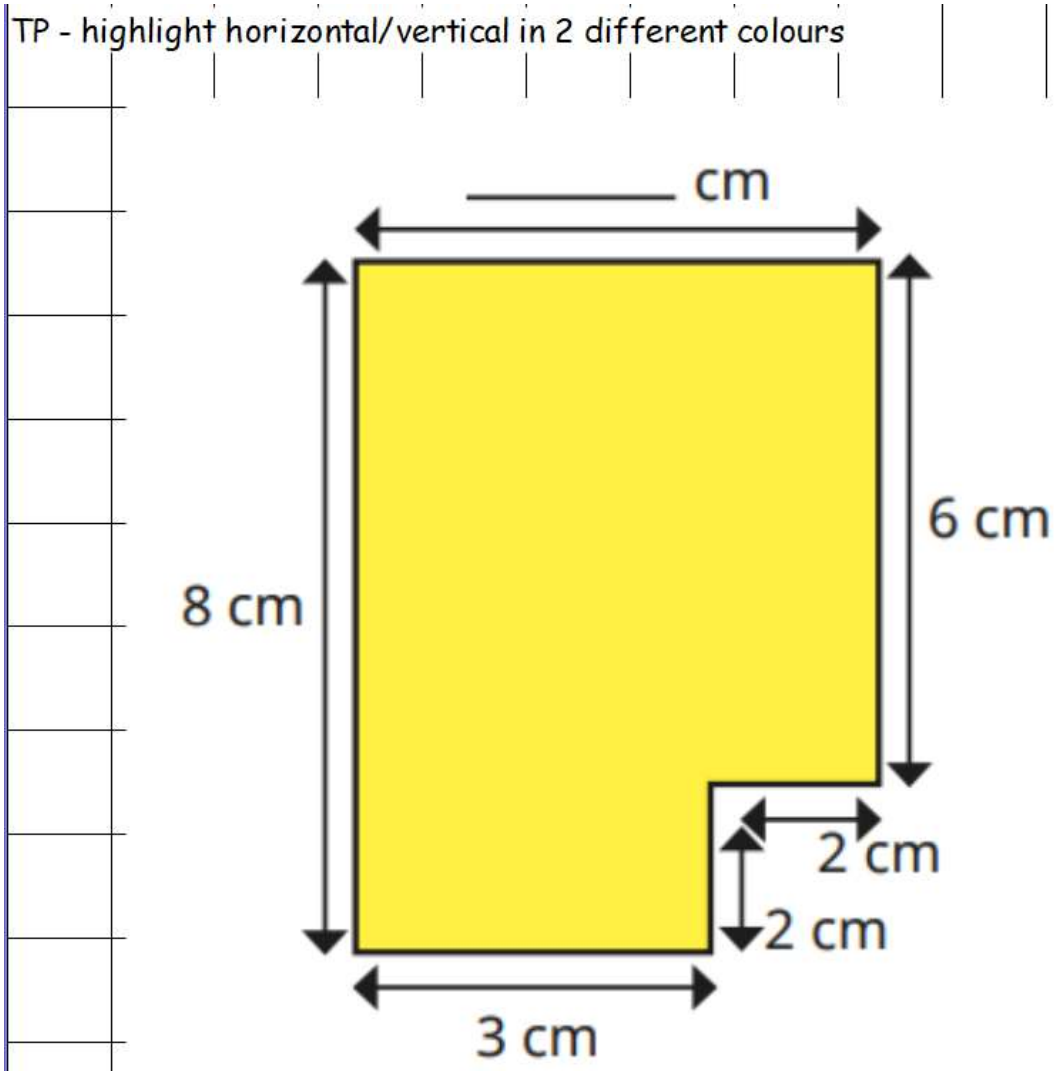
**a)**

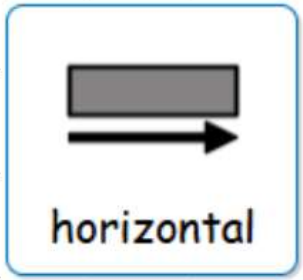


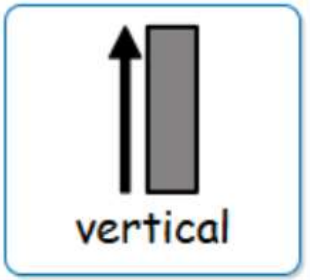

**b)**



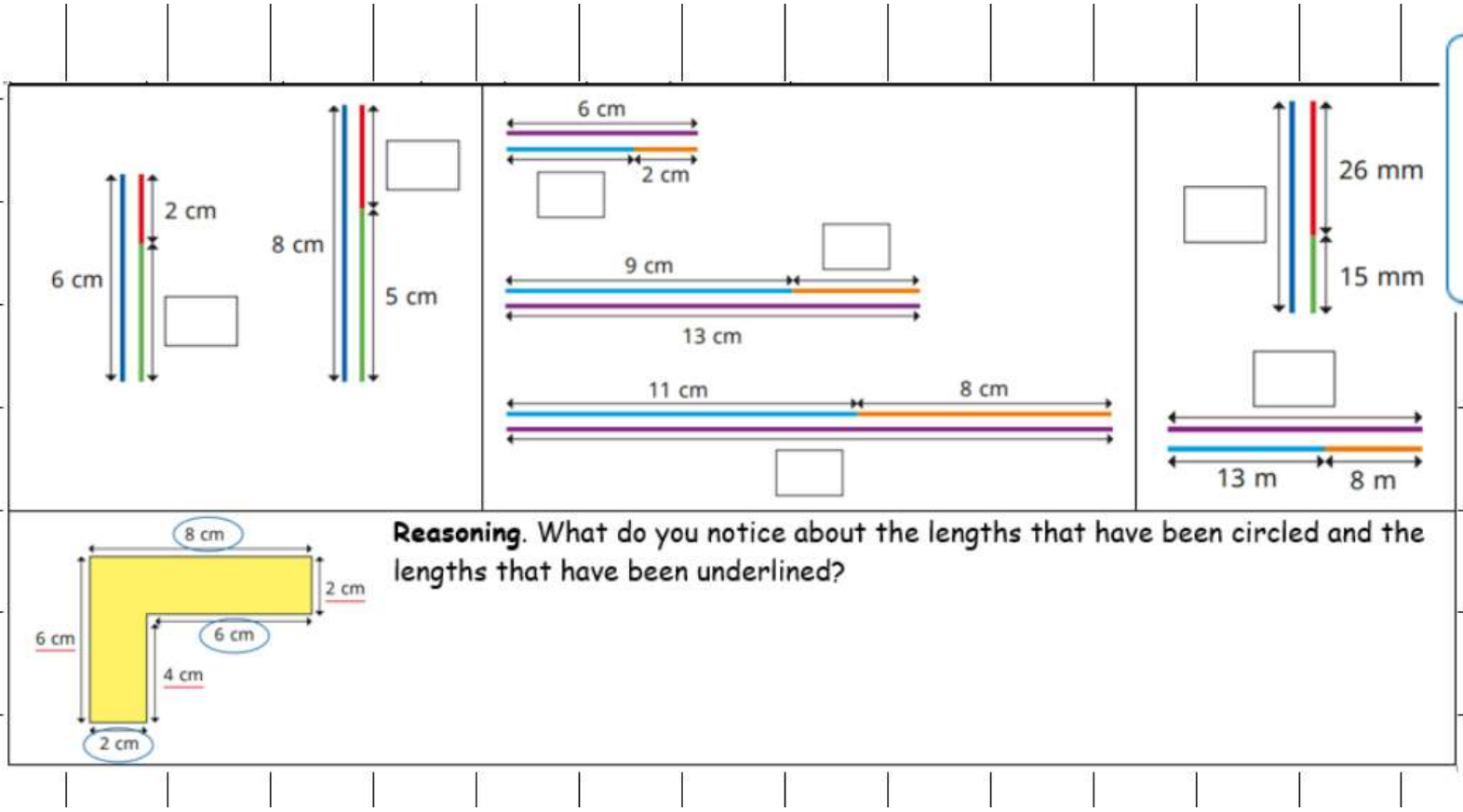
TP - highlight horizontal/vertical in 2 different colours



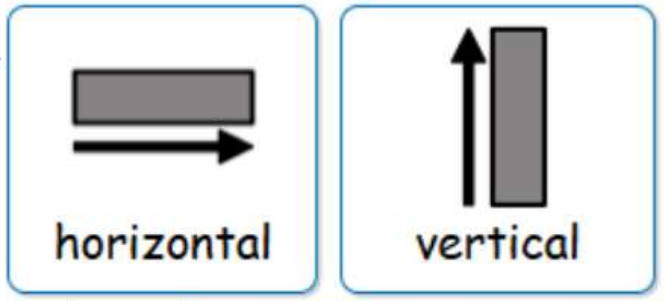



Children's first task




**Reasoning**. What do you notice about the lengths that have been circled and the lengths that have been underlined?



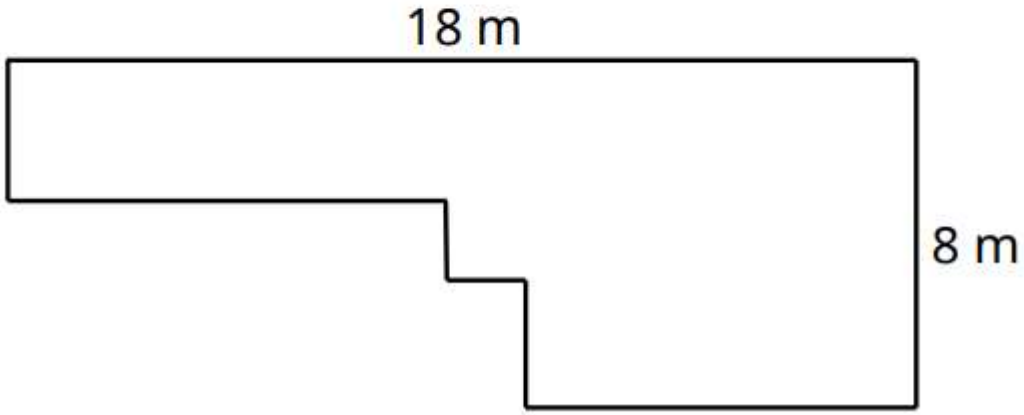
# True or False?

## Calculate perimeter of rectilinear shapes

White Rose MATHS

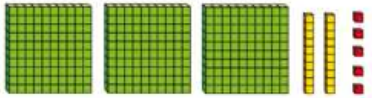
I cannot calculate the perimeter of this rectilinear shape, because there are too many missing side lengths.





Have a go!

Amir has made the number 325



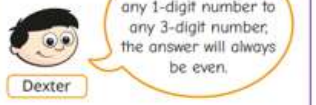
Amir subtracts 3 ones from his number.

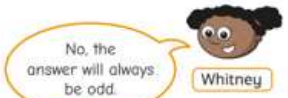
**a)** Write a subtraction to show what Amir has done.

**a)** 276 + 3 = ☐ **g)** ☐ = 625 + 3

**b)** 276 − 4 = ☐ **h)** ☐ = 488 − 7

Dexter and Whitney are adding 1s.




Who do you agree with?

Explain your answer.

You might use these sentence stems to help you answer this question:

It can't be ___ because.....

I noticed that ___ so.....

This is different because.....

I already know.....so.....

If.....then.....

I know that because.....

## Finished?

**True or False?**

**Hundreds, tens and ones**

The place value chart shows 253

| Hundreds | Tens | Ones |
|---|---|---|
| 100 100 | 10 10 10 10 10 | 1 1 1 |

**True or False?**

**The 2, 5 and 10 times-tables**

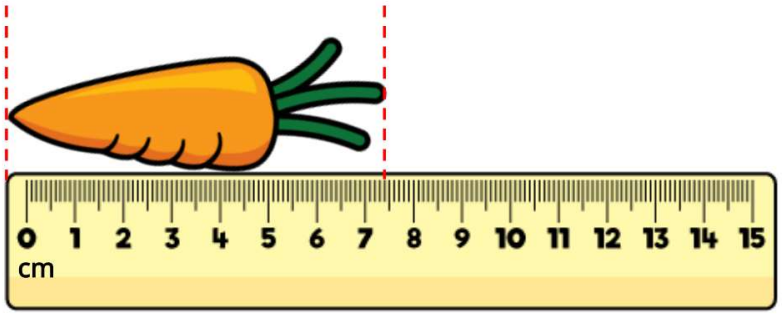
All multiples of 10 are also multiples of 5

**True or False?**

**Measure in centimetres and millimetres**

White Rose MATHS

The length of the carrot is 7 cm and 4 mm.



# Maths at home

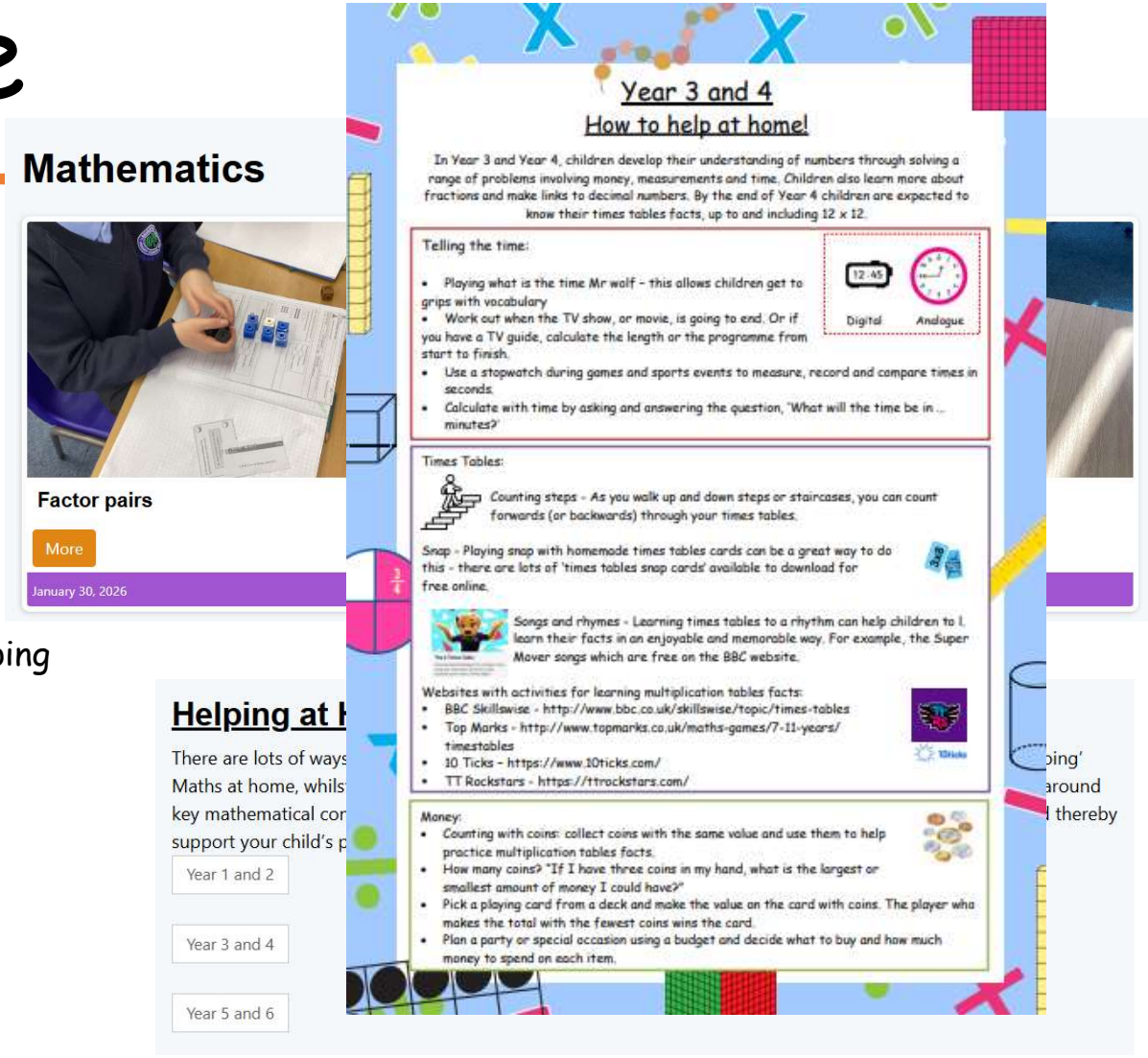
- **Be positive** about maths.
- Point out the maths in **everyday life**.
- **Praise** your child for **effort rather than talent**.

You may help by:

- Telling the time
- The ability to estimate
- To use maths in a real-life context e.g. Cooking, Shopping
- Practise times tables

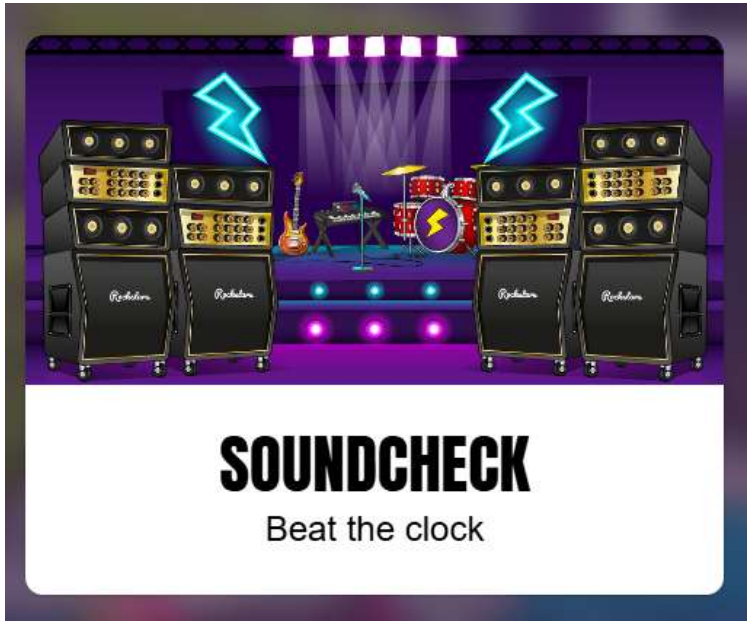
- Check the website for our help at home section!

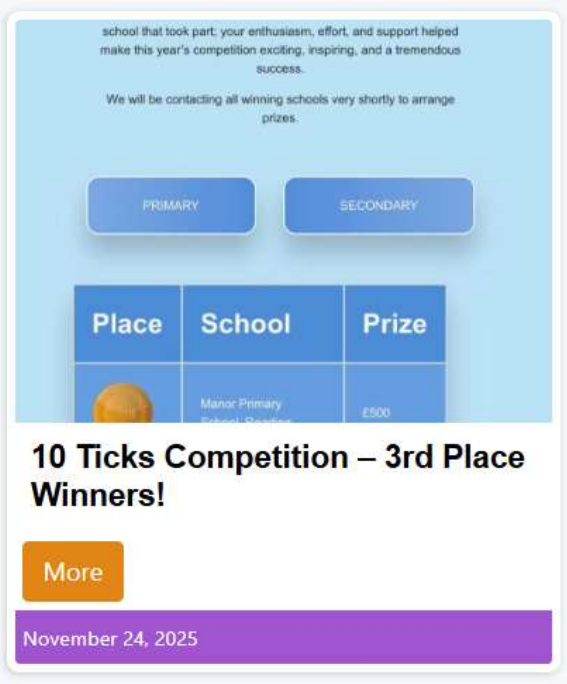
*Discover Our School – Subjects - Mathematics*



# Times Tables

- In year 4 the children take part in a times tables test.
- This is because by the end of Year 4, they should have learnt all times tables and division facts up to 12.



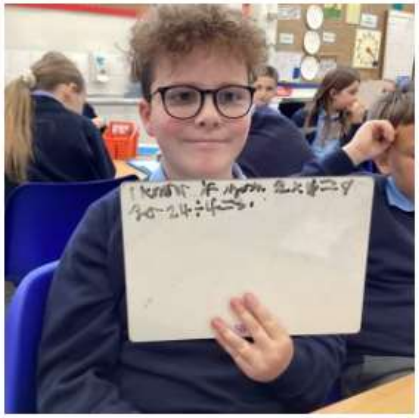
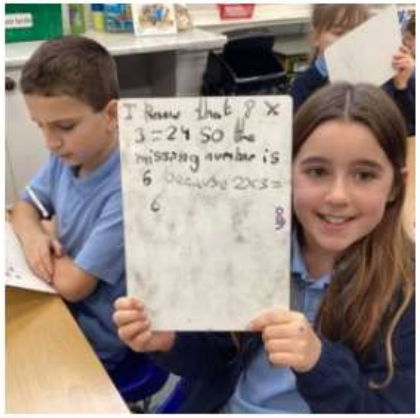
# Mastering Number – Supporting times tables

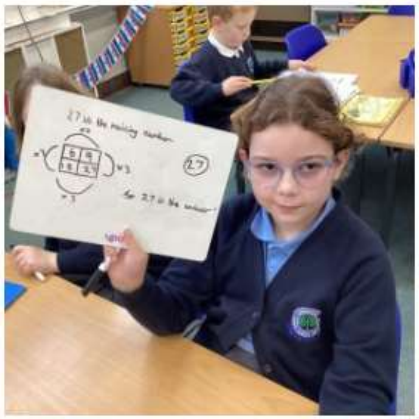
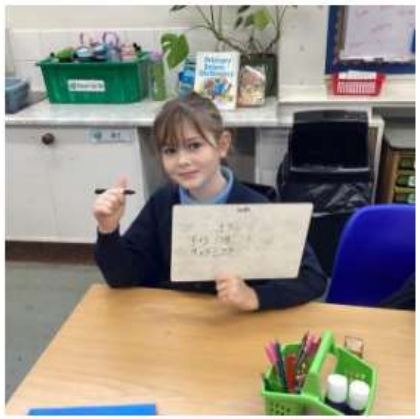
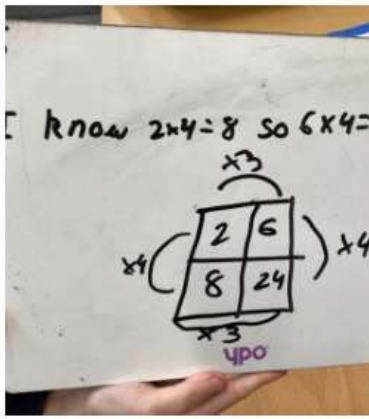
- Develop fluency in multiplication and division facts
- Confidence and flexibility with number that exemplifies good number sense.
- Develop automaticity in multiplication and division facts through regular practice
- Develop an understanding of how pupils progress in their knowledge and understanding of multiplicative concepts.

- [Mastering Number at KS2 | NCETM]

## Mastering Number!

Today the children used their times table knowledge to support their mastering number work. They made links between the sections to find the missing number.

# Times Tables - How to support

- TT rockstars
- BBC Times super movers videos - Times tables collection - BBC Teach
- Hit the button - Hit the Button - Quick fire maths practise for 6-11 year olds (topmarks.co.uk)
- Chanting times tables
- Times tables games - Learn them all here!
- Times Tables Games for 7 to 11 year olds (topmarks.co.uk)