Maths Workshop KS2

2024 – 2025

Portfields' Bridge

Believe I can - Respect & kindness - Involve everyone - Dream big - Grown minds - Empower learners

Aims for today

- To understand a Mastery Approach to maths?
- To explain Concrete, Pictorial and Abstract (CPA) approaches in math
- Show how math strategies develop across Key Stage 2
- Share useful resources and websites to support learning at home

If you have questions please write them down. At the end of session if I have not answered your questions please ask.

The Mastery Approach

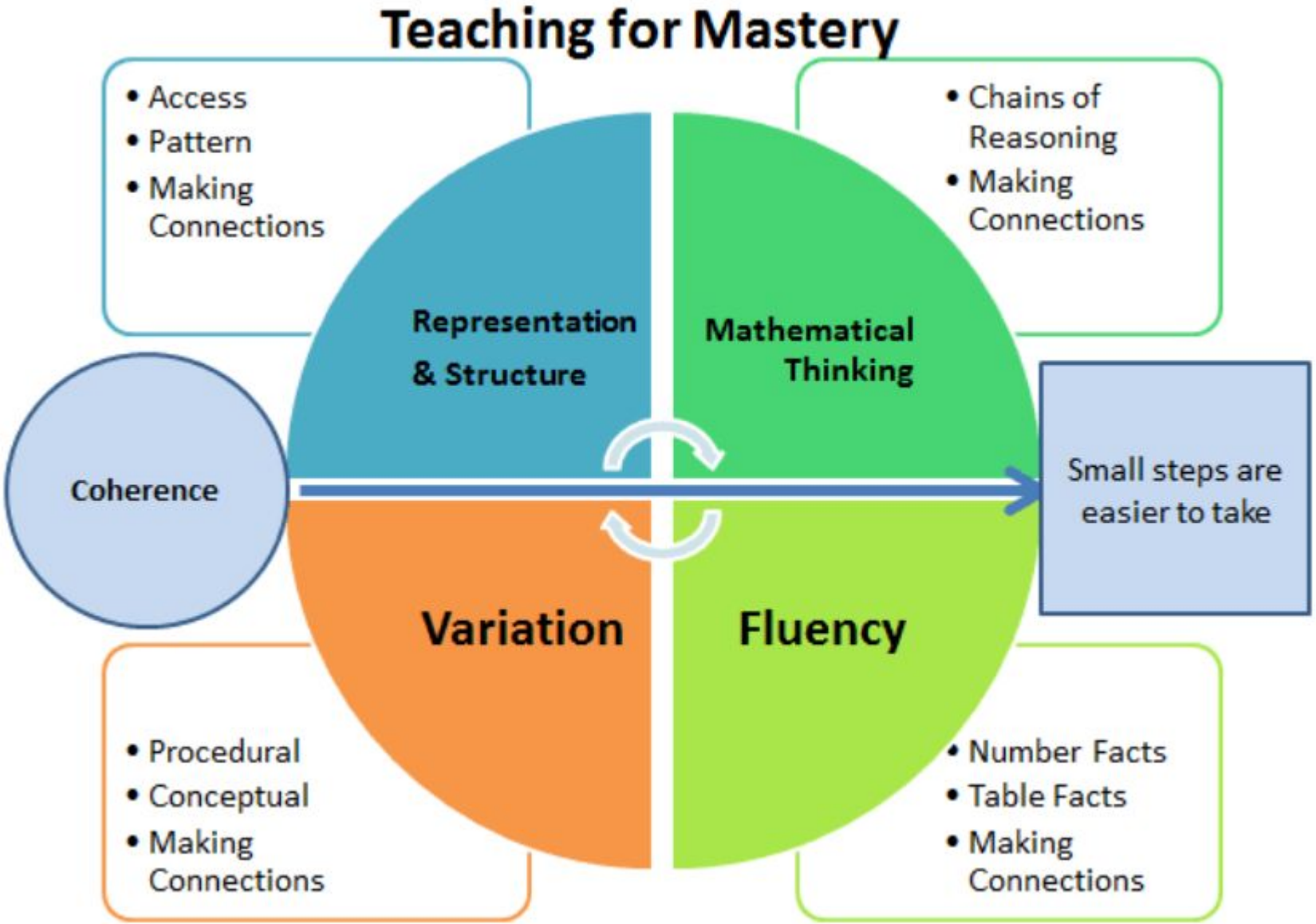
- Mastering maths means children acquire a deep, long-term, secure and adaptable understanding of maths

- The phrase ‘teaching for mastery’ describes the elements of classroom practice and school organization that combine to give pupils at Portfields the best chances of mastering maths.

- Achieving mastery means acquiring a solid understanding of the maths that is been taught to enable pupils to move on to more advanced material.

- **Acquiring mastery of maths is for all children**!

The Mastery Approach



What does the Mastery Approach look like at Portfields?

- Whole class move through the maths content at the same pace.
- Each topic is studied in depth to ensure all children can demonstrate a secure understanding of mathematical concepts
- No ability grouping or sets. Instead students are given time to think deeply.
- Not limiting children but building children who are confident and resilient.

C.P.A method: Concrete, Pictorial Abstract

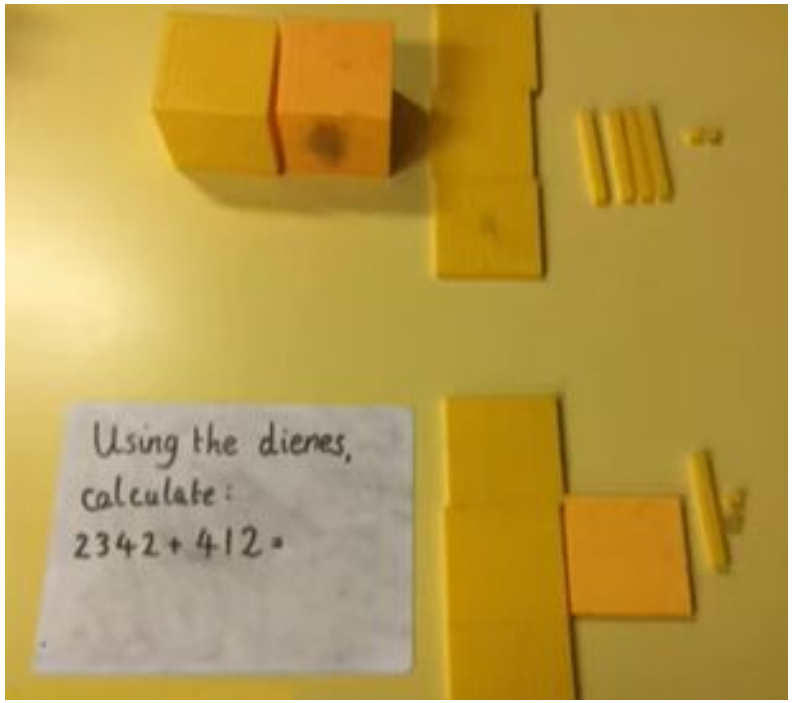
The Concrete, Pictorial, Abstract approach (CPA) is a highly effective approach to teaching that develops a deep and sustainable understanding of maths in pupils

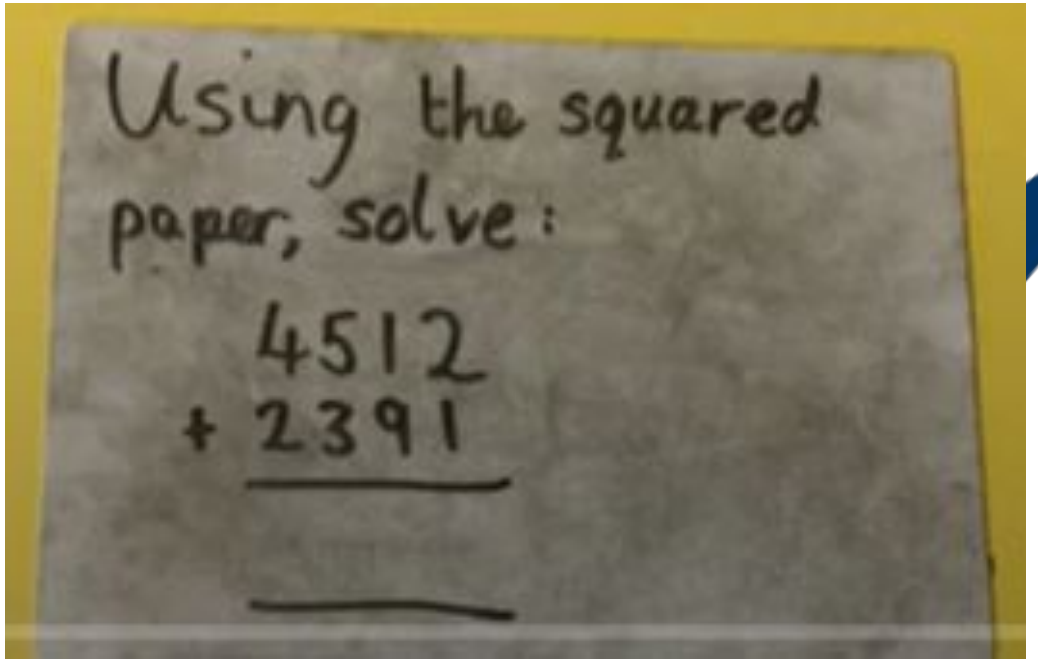
Concrete- the use of manipulatives / physical resources to demonstrate the process behind what is being taught.

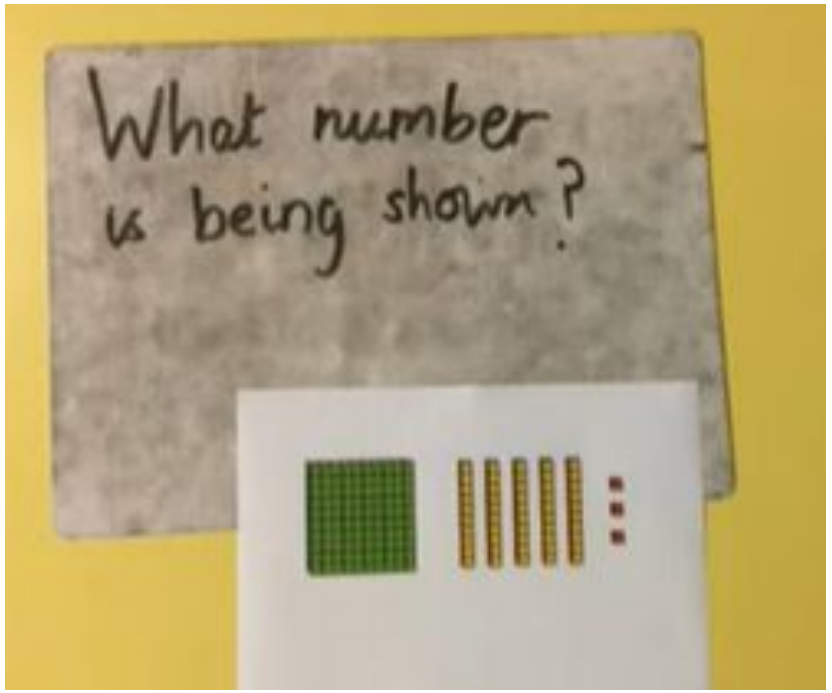
Pictorial- visual aids that help children understand and solve problems. They can include drawings, bar models, part-whole diagrams, or base ten drawings.

Abstract - is the “symbolic” stage, where children use abstract symbols to model problems. Students will not progress to this stage until they have demonstrated that they have a solid understanding of the concrete and pictorial stages of the problem.

Which is which?







White Rose Maths

Year 4 (v3)

Scheme of learning | Supporting materials

	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 term	Number: Place value (Free trial) VIEW				Number: Addition and subtraction VIEW			Measurement: Area VIEW	Number: Multiplication and division A VIEW			Consolidation
Spring term	Number: Multiplication and division B VIEW				Measurement: Length and perimeter VIEW			Number: Fractions VIEW			Number: Decimals A VIEW	
Summer term	Number: Decimals B VIEW				Measurement: Money VIEW			Measurement: Time VIEW	Consolidation	Geometry: Shape VIEW	Statistics VIEW	Geometry: Position and direction VIEW

PORTFIELDS PRIMARY SCHOOL

White Rose Maths

Year 4 | Autumn term | Block 2 – Addition and subtraction

Small steps

Step 1	Add and subtract 1s, 10s, 100s and 1,000s
Step 2	Add up to two 4-digit numbers – no exchange
Step 3	Add two 4-digit numbers – one exchange
Step 4	Add two 4-digit numbers – more than one exchange
Step 5	Subtract two 4-digit numbers – no exchange
Step 6	Subtract two 4-digit numbers – one exchange
Step 7	Subtract two 4-digit numbers – more than one exchange
Step 8	Efficient subtraction

Three main areas of math: Fluency, Problem Solving, Reasoning

7a. Complete the calculation.

	4	2	3	6
+	3	6	2	7

5a. Frankie is adding two 4-digit numbers together.

	4	□	3	4
+	3	□	8	1
		5		

What digits could be in the hundreds column so that no exchange takes place?

6b. Delilah thinks that an exchange takes place from the hundreds column in the calculation below.

	5	3	1	1
+	3	8	1	2

Is she correct?
Prove it.

5a. Match the calculation to the correct answer.

	2	0	3	5
+	1	0	7	3

A	1,000 1,000 1,000 1 1 1 1 1 1 1 1
B	Three thousand and eighteen
C	3,108

Flashback 4

Year 5 | Week 3 | Day 5

LXXXVIII

1) What range of whole numbers round to 700,000 to the nearest hundred thousand?

2) What number lies halfway between 350,000 and 650,000?

3) The coordinate (2, 4) moves 2 right and 4 up. What is the position of the new coordinate?

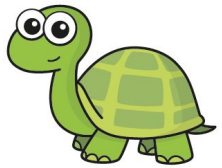
4) What inverse calculation could you do to check that $2{,}405 + 6{,}360 = 8{,}765$?

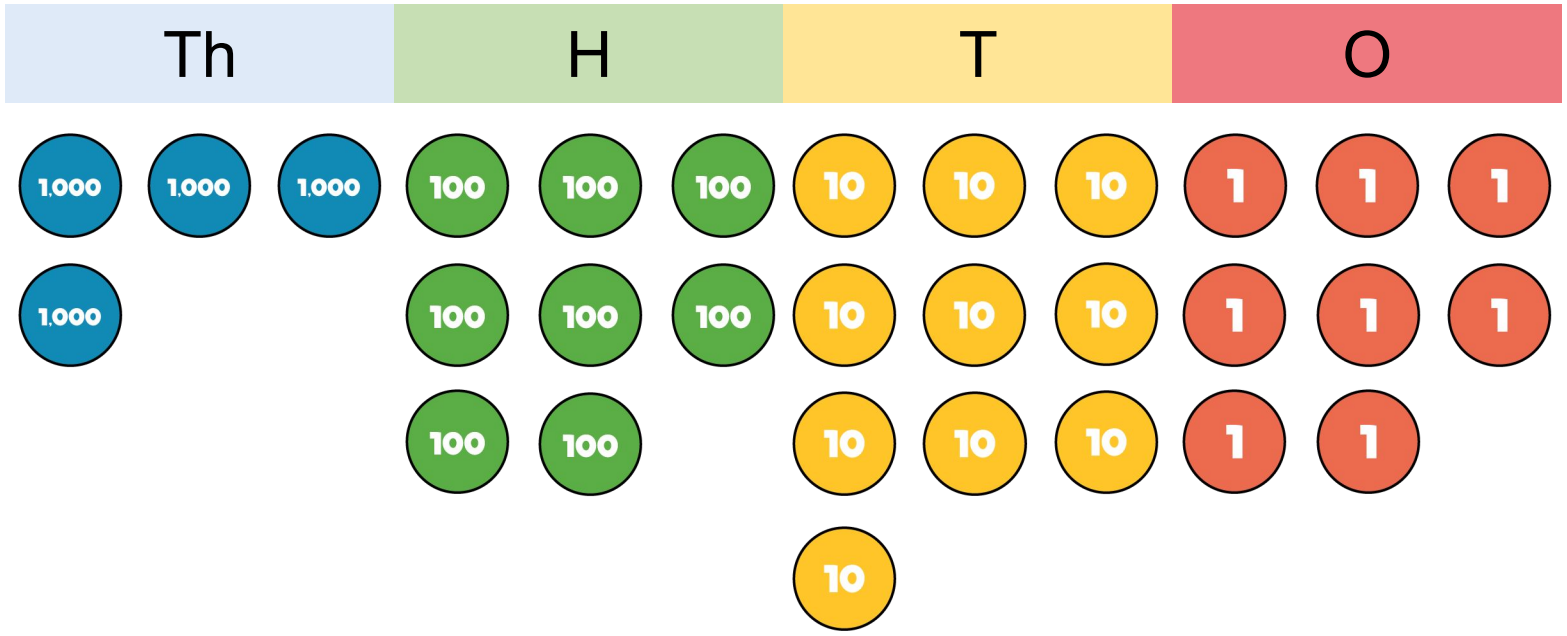
Tiny makes a number on a place value chart.

Thousands	Hundreds	Tens	Ones
●●	●●●	●	●●
●●	●●		●●
	●		●●

4,516 – 3,000 = 1,516

Have a think





Sometimes changes when adding 10s

Always changes when adding 10s

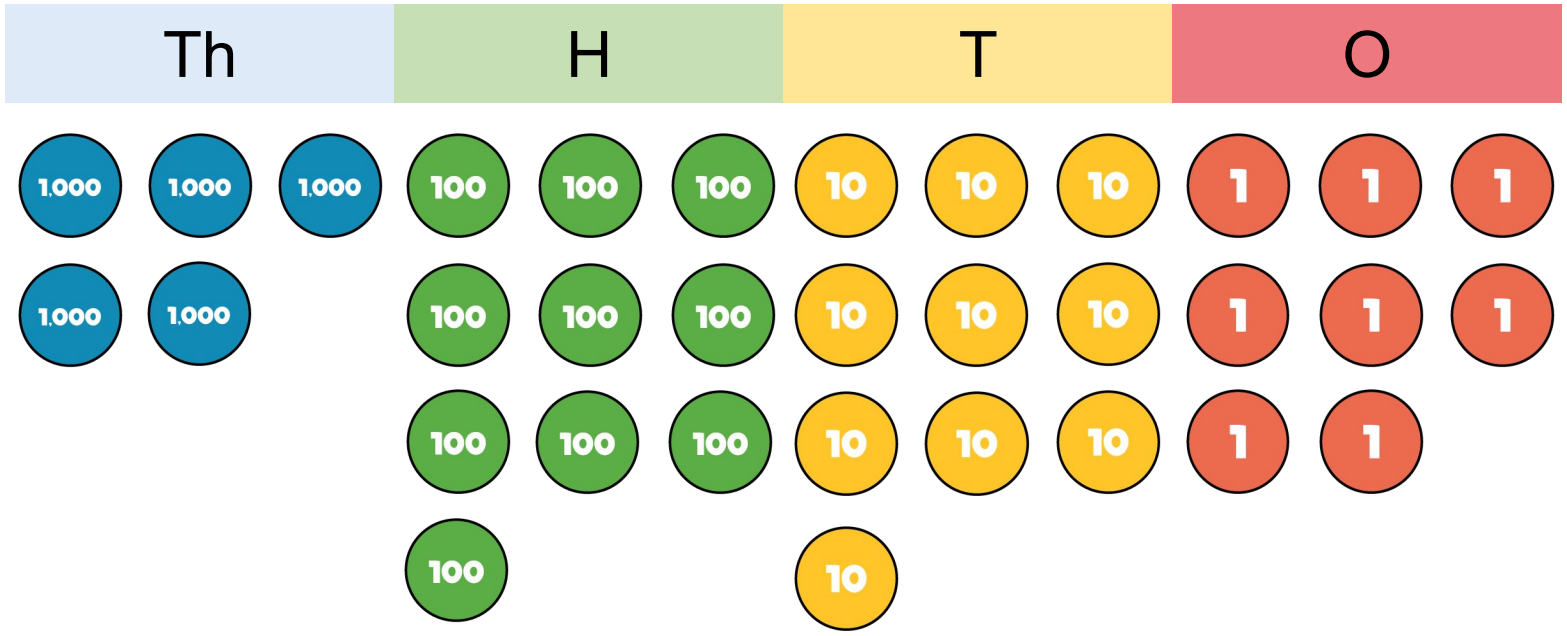
Never changes when adding 10s

$4{,}758 + 10 = 4{,}768$

$4{,}758 + 30 = 4{,}788$

$4{,}758 + 50 = 4{,}808$

Have a think



Sometimes changes when adding 10s

Sometimes changes when adding 10s

Always changes when adding 10s

Never changes when adding 10s

$4{,}958 + 10 = 4{,}968$

$4{,}958 + 30 = 4{,}988$

$4{,}958 + 50 = 5{,}008$

Thinking of a number

Think of a number

+ 3

Double it

+ 4

Half it

Take away original number

What do you get? Always /Sometimes/ Never

Reach 100 *from* Nrich

5	2
1	9

52 + 19 = 71
51 + 29 = 80

In this case their sum is 151.

Try a few examples of your own.

Is there a quick way to tell if the total is going to be even or odd?

Your challenge is to find four different digits that give four two-digit numbers which add to a total of 100.

How many ways can you find of doing it?

Supporting at home!

Making maths practical by using real materials.

Try some of these at home with your child

Using food

Talking time

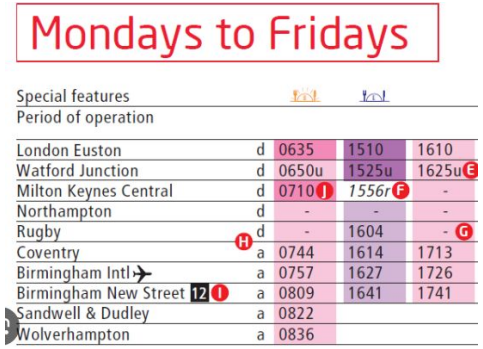
Key Stage Two Maths CGP Year 6

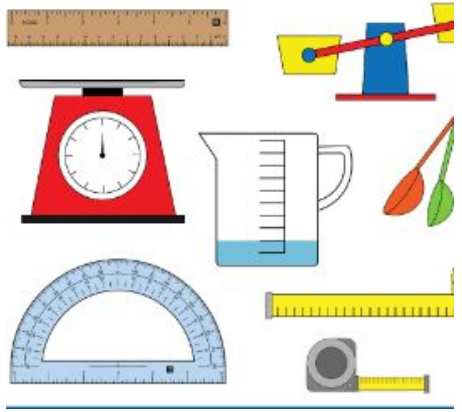
homework

At the shops

Using money

Estimation

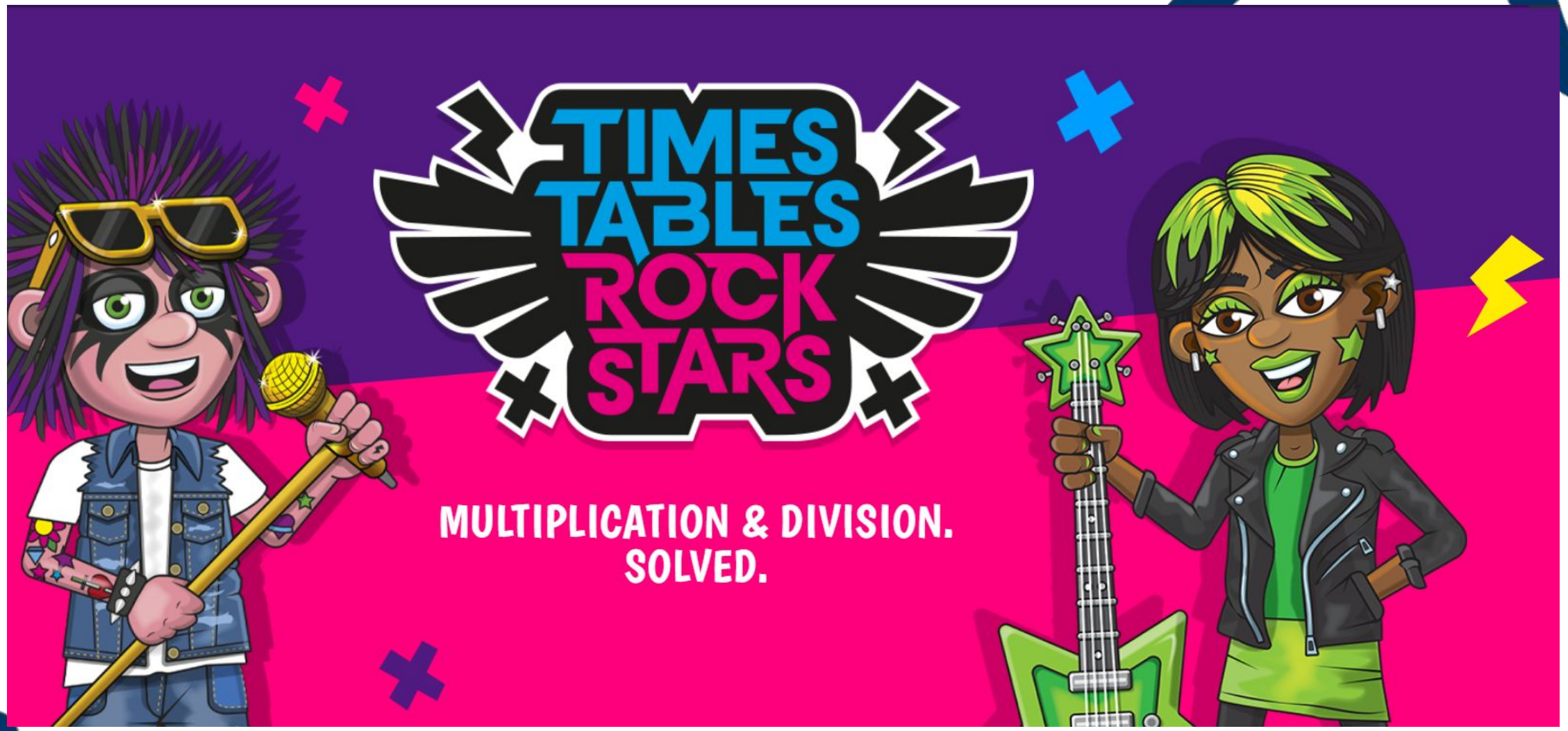




Measuring

During cooking

Supporting at home!



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Why do schools love White Rose?

PORTFIELDS PRIMARY SCHOOL

Thinking is at the heart of Mathematics and therefore should be at the heart of mathematical teaching and learning.

And most importantly maths is fun!

Any Questions?