

ABBNEY FARM ET PRIMARY

Mathematics



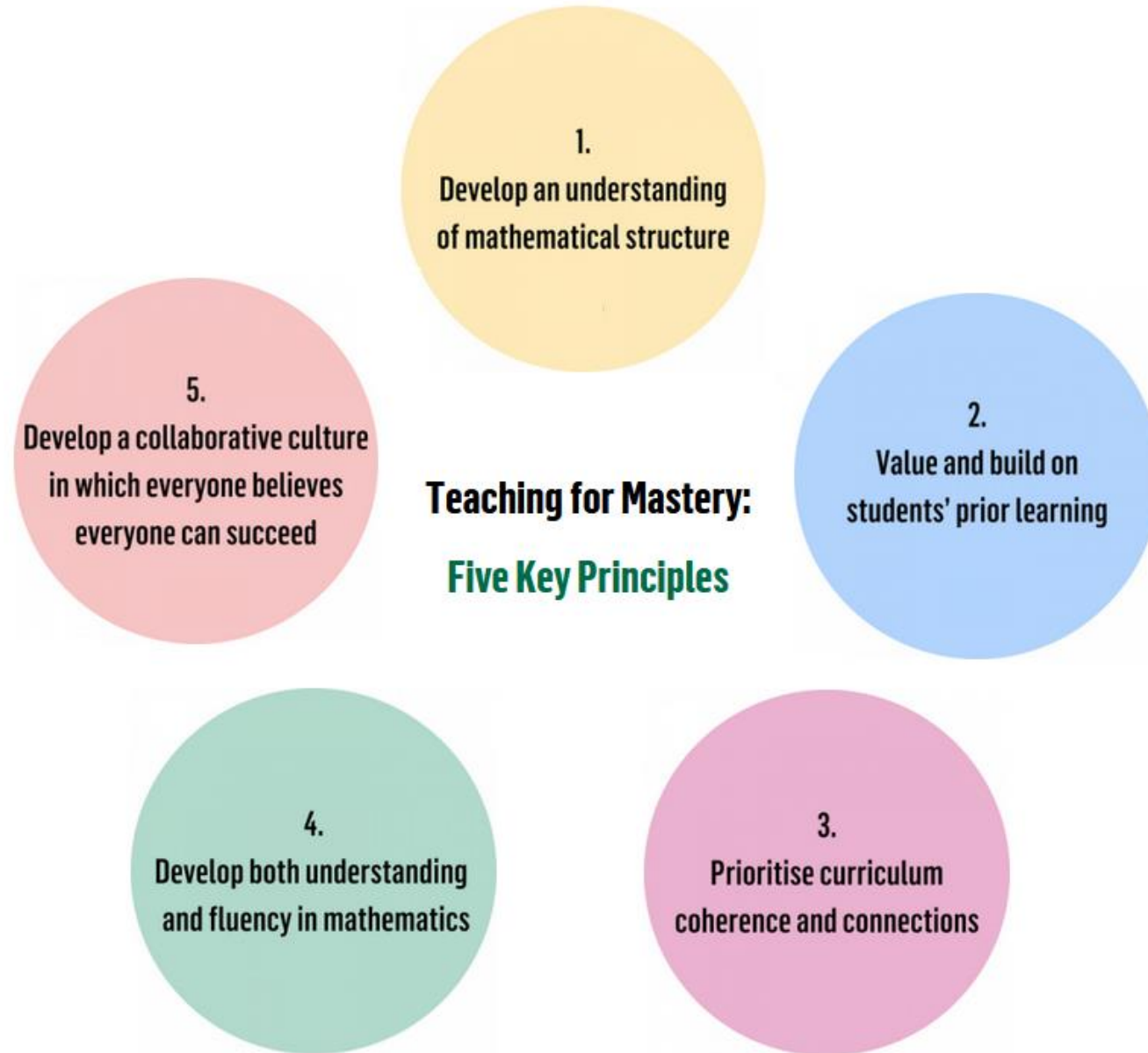
Abbey Farm
Educate Together Primary

Teaching for Mastery

'Teaching for mastery' in mathematics means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject.

The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering mathematics.

Achieving mastery means acquiring a solid enough understanding of the mathematics that's been taught to enable pupils to move on to more advanced material.



The CPA Approach

Concrete

Use of physical objects or manipulatives

Hands on approach to help meet different learning styles

Known as the "doing" stage.

Pictorial

Drawings or visual representations

No longer needs physical objects to problem solve but benefit from visuals.

Known as the "seeing" stage"

Abstract

Involves solving problems using only numbers

Mathematical symbols are used to solve such as $+$, $-$, \times , \div

Known as the "symbolic" stage

Research shows that when children are introduced to a new concept, working with concrete physical resources and pictorial representations leads to a better understanding of abstract concepts.



White Rose Mathematics Scheme

Year One

<div>Number</div> <div>Place value</div> <div>(within 10)</div> <div>VIEW</div> <div>Free trial</div>	<div>Number</div> <div>Addition and subtraction</div> <div>(within 10)</div> <div>VIEW</div>	<div>Geometry</div> <div>Shape</div> <div>VIEW</div>	<div>Consolidation</div>			
<div>Number</div> <div>Place value</div> <div>(within 20)</div> <div>VIEW</div>	<div>Number</div> <div>Addition and subtraction</div> <div>(within 20)</div> <div>VIEW</div>	<div>Number</div> <div>Place value</div> <div>(within 50)</div> <div>VIEW</div>	<div>Measurement</div> <div>Length and height</div> <div>VIEW</div>	<div>Measurement</div> <div>Mass and volume</div> <div>VIEW</div>		
<div>Number</div> <div>Multiplication and division</div> <div>VIEW</div>	<div>Number</div> <div>Fractions</div> <div>VIEW</div>	<div>Geometry</div> <div>Position and direction</div> <div>VIEW</div>	<div>Number</div> <div>Place value</div> <div>(within 100)</div> <div>VIEW</div>	<div>Measurement</div> <div>Money</div> <div>VIEW</div>	<div>Measurement</div> <div>Time</div> <div>VIEW</div>	<div>Consolidation</div>

Year Two

Number

Place value

FREE TRIAL

VIEW

Number

Addition and subtraction

VIEW

Geometry

Shape

VIEW

Measurement

Money

VIEW

Number

Multiplication and division

VIEW

Measurement

Length and height

VIEW

Measurement

Mass, capacity and temperature

VIEW

Number

Fractions

VIEW

Measurement

Time

VIEW

Statistics

VIEW

Geometry

Position and direction

VIEW

Consolidation

Small Steps

Year 2 | Autumn term | Block 3 – Shape

Small steps

Step 1

Recognise 2-D and 3-D shapes

Step 2

Count sides on 2-D shapes

Step 3

Count vertices on 2-D shapes

Step 4

Draw 2-D shapes

Step 5

Lines of symmetry on shapes

Step 6

Use lines of symmetry to complete shapes

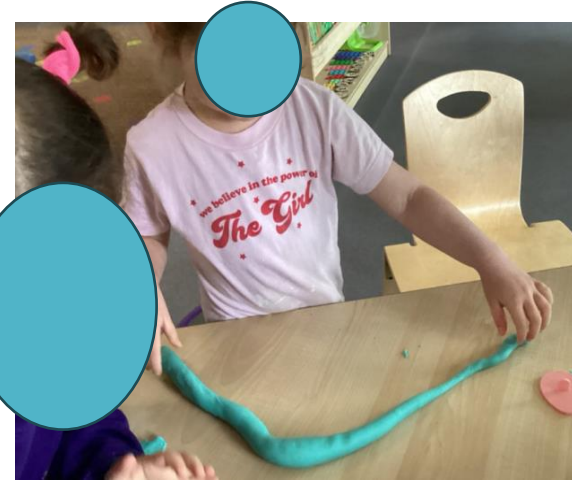
Step 7

Sort 2-D shapes

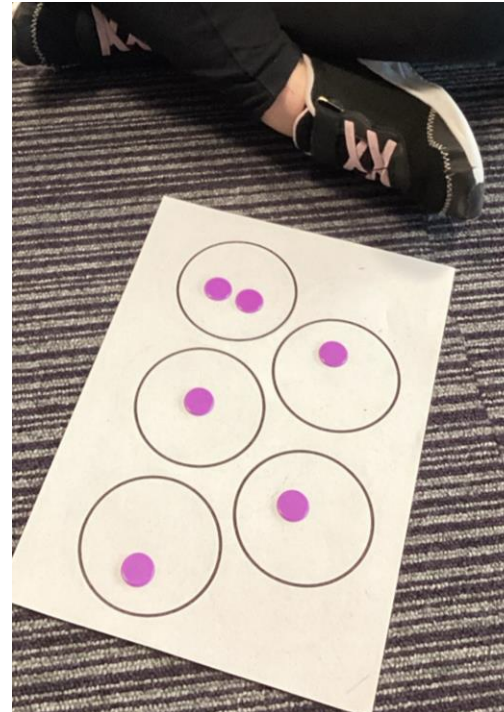
Step 8

Count faces on 3-D shapes

Developing understanding in Preschool

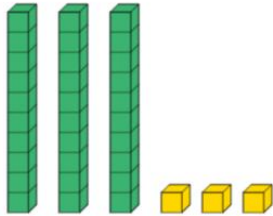
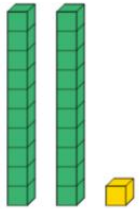
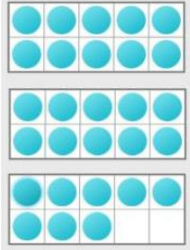
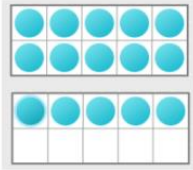


Developing understanding in Reception



Developing understanding in KS1

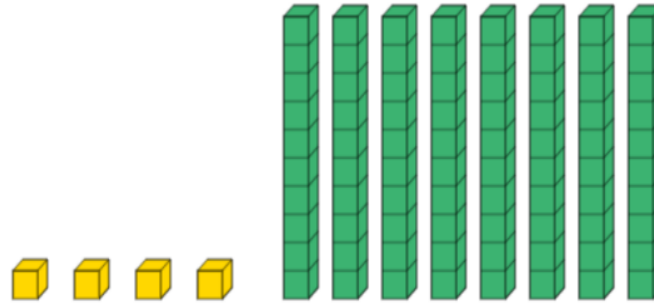
Which numbers have been represented below:



DO IT

Five questions that allow your child to show they understand the small step taught during the input.

Tom has represented 48:



Is he correct? How do you know?

SECURE IT

An activity that involves mathematical reasoning; usually by spotting and explaining a mistake.

Emma has some cubes.

She counts them by making tens.

She cannot make a group of 10.

How many cubes might she have?

Complete the number sentence.

Find all the solutions. Use a part whole model to help you.

$$\boxed{1} \boxed{0} - \boxed{} = \boxed{}$$

DEEPEN IT

Open-ended problem-solving question or word problem that extends your child's thinking deeper.

Developing understanding in KS1

Stage	Year
Stage 1 Visual Number Foundations	Year 1
Stage 2 Make and Break Numbers to 10	
Stage 3 Facts and Strategies within 10	
Stage 4 Ten and A Bit	
Stage 5 Facts and Strategies across 10	
Stage 6 Extending Facts and Strategies	Year 2
Consolidation	
	Year 3 Autumn Term

Addition Grid Facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Subtraction Grid Facts

-	0	1	2	3	4	5	6	7	8	9	10
0	0-0										
1	1-0	1-1									
2	2-0	2-1	2-2								
3	3-0	3-1	3-2	3-3							
4	4-0	4-1	4-2	4-3	4-4						
5	5-0	5-1	5-2	5-3	5-4	5-5					
6	6-0	6-1	6-2	6-3	6-4	6-5	6-6				
7	7-0	7-1	7-2	7-3	7-4	7-5	7-6	7-7			
8	8-0	8-1	8-2	8-3	8-4	8-5	8-6	8-7	8-8		
9	9-0	9-1	9-2	9-3	9-4	9-5	9-6	9-7	9-8	9-9	
10	10-0	10-1	10-2	10-3	10-4	10-5	10-6	10-7	10-8	10-9	10-10
11		11-1	11-2	11-3	11-4	11-5	11-6	11-7	11-8	11-9	11-10
12			12-2	12-3	12-4	12-5	12-6	12-7	12-8	12-9	12-10
13				13-3	13-4	13-5	13-6	13-7	13-8	13-9	13-10
14					14-4	14-5	14-6	14-7	14-8	14-9	14-10
15						15-5	15-6	15-7	15-8	15-9	15-10
16							16-6	16-7	16-8	16-9	16-10
17								17-7	17-8	17-9	17-10
18									18-8	18-9	18-10
19										19-9	19-10
20											20-10

Calculation Strategies

One More, One Less

Two More, Two Less: Think Odds and Evens

Number 10 Fact Families

Five and A Bit

Know About Zero

Doubles and Near Doubles

Number Neighbours: Spot the Difference

7 Tree 9 Square

Ten and A Bit

Make 10 and Then

Adjusting

Swap It

Number
 Sense
 Maths