

At The Robert Ogden School, pupils experience a personalised and bespoke curriculum, to gain key mathematical skills across topic areas, which then can be transferred into everyday life. Pupils can then develop independence, within a supportive and caring environment to achieve their full potential. Learners are given opportunity to transfer knowledge and skills across all school life and when out in the community.

At the Robert Ogden School, we use White Rose Maths, for those pupils accessing the National Curriculum. It is a whole school programme which focuses on breaking down maths concepts into small manageable steps so that it can be accessed by all our learners. It is designed to scaffold our pupil's learning by building on their previously acquired knowledge and give them a sense of accomplishment

White Rose Maths incorporates the concrete-pictorial-abstract (CPA) approach to teaching maths, placing an emphasis on developing deep understanding of maths concepts, rather than rushing through topics. It offers opportunities to explore and grasp the underlying principles of maths principles.

CPA is an approach that uses physical objects and visual aids to help build understanding. New maths concepts are introduced through the use of concrete resources and manipulatives e.g. Base Ten, bead strings. Once confidence is built in this way, problems with pictures and visuals are introduced – usually pictorial representations of the concrete objects that have been used. Abstract problems are then introduced using numbers and/or symbols. This sequence of learning helps secure a better understanding of the relationship between numbers and the real world.

CPA reasoning $8 + 5 = 13$

Concrete: Base ten blocks (8 blue rods, 5 red rods), bead strings (8 blue beads, 5 red beads), balance scale.

Pictorial: Drawings of base ten blocks, bead strings, and a balance scale.

Abstract: $8 + 5 = 13$ and $13 = 8 + 5$

White Rose Maths, with its adaptable nature, means that it caters for the unique needs of individual pupils and allows personalisation for all. Pupils are able to progress at their own pace, promoting a positive and inclusive learning environment.

The school uses a Visual Calculation Policy (VCP) which informs teachers and children in school, alongside White Rose Maths. The written strategies can be used to support teaching and learning of calculation across the 4 operations. It supports with progression, knowing next steps and will help to develop consistent approaches through school.

A4: Partitioning

²

$$43 + 24 = 67$$
$$40 + 20 = 60$$
$$3 + 4 = 7$$

$$67$$

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S4: Backwards Bounce

²

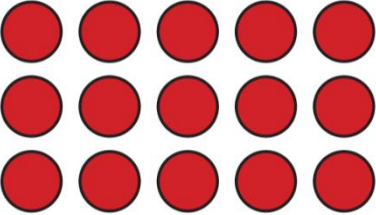
$$64 \quad 65 \quad 66 \quad 67 \quad 77 \quad 87$$

-1 -1 -1 -10 -10

$$87 - 23 = 64$$

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M3: Arrays
2

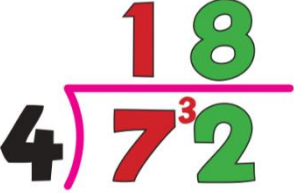


3 x 5 = 15 or 5 x 3 = 15

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D10: Short Division
3

72 ÷ 4 = 18



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Because we have pupils across key stages and abilities, that learn in their own way, and at their own pace. There are different pathways teachers use to inform their teaching. There are different topic cycles and schemes of learning for children learning at their stage. We use learning to learn, ready to learn and applied learning cycles to support teachers in planning and teaching their pupils working at their standard.

Once pupils reach Standard 12, they have opportunities to access formal examinations.

Learning to Learn Long Term Plan:

Long Term Plan- Maths (Learning to Learn)						
Number lessons at least 4 times a week						
Non-Number content through learning through play activities						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number	Number	Number	Number	Number	Number	Number
Non-number	Colours Match Sort Compare MTC Nursery Units: Colours! Matching Sorting WRM Reception Units:	Patterns Position, direction and movement MTC Nursery Units: Pattern (1) Pattern (2) Positional language WRM Reception Units:	Measures: Mass and capacity MTC Nursery Units: Mass Capacity WRM Reception Units:	2D shape MTC Nursery Units: 2D shape WRM Reception Units:	Measures: Height, length and time MTC Nursery Units: Height and length WRM Reception Units:	3D shape MTC Nursery Units: 3D shape WRM Reception Units:
	Match, sort and compare 2 Talk about measure and patterns 2	Visualise, build and map 3	Talk about measure and patterns 2 Mass and capacity 1	Circles and triangles 1 Shapes with 4 sides 1 Manipulate, compose and decompose 2	Length, height and time 2	Explore 3D shapes 2

Progression of Number Units – Maths (Learning to Learn)

MTC Nursery Units	WRM Reception Units
Number 1	It's me 123
Number 2: subitising	1, 2, 3, 4, 5
Number 2	Alive in 5
Number 3: subitising	Growing 6, 7, 8
Number 3	Building 9 and 10
Number 4	To 20 and beyond
Number 4: composition	How many now?
Number 5	Sharing and grouping
Number 5: composition	Make connections
Number 6	
Sequencing	
More than/fewer	
Number composition	
What comes after?	
What comes before?	
Numbers to 5	

Ready to Learn Long Term Plan:

Long Term Plan- Maths (Ready to Learn)						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number	Number: Place Value	Number: Addition	Number: Subtraction	Number: Multiplication	Number: Division	Number: <ul style="list-style-type: none"> Fractions, Decimals and Percentages Ratio and Proportion Algebra
Non-number	Shape: <ul style="list-style-type: none"> 2D shapes 3D shapes Angles and lines Symmetry 	Position, direction and movement: <ul style="list-style-type: none"> Turns Angles and lines Coordinates Translations Reflections 	Measures: <ul style="list-style-type: none"> Length and height Weight and mass Capacity and volume 	Statistics <ul style="list-style-type: none"> Block diagrams Bar charts Pictograms Graphs 	Measures: Time	Measures: Money

Applied learning Long Term Plan:

Long Term Plan- Maths Applied Learning						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number	<ul style="list-style-type: none"> Place Value Addition/Subtraction Multiplication/Division Fractions 	Algebra <ul style="list-style-type: none"> Missing Number Problem Powers/Roots Simultaneous Equations 	Ratio Proportion <ul style="list-style-type: none"> Scale Maps Dividing Ratio Percentages 	Geometry <ul style="list-style-type: none"> 3D Shapes Circles Parallel lines 	Probability <ul style="list-style-type: none"> Venn Diagram Tree Diagram 	Statistics <ul style="list-style-type: none"> Mean, Medium, Mode Scatter Graphs