Maths Vocabulary Progression

Intent

Maths at Cockwood embraces the integral understanding of number and the importance of children's ability to reason and problem solve in equal measure. In order to be successful in later life and future employment, pupils at Cockwood are encouraged to enjoy the challenge that real-life contextual maths has to offer; with the underpinning of quick recall of number facts essential to this. Oracy is also at the heart of the maths curriculum at Cockwood. Children are encouraged to explain their thinking both orally and in its written form, with the use of mathematical vocabulary explicit in this. Each classroom is also primed with stem sentences to help the children confidently formulate their explanations or answer a question in Maths.

Accessing prior knowledge of subject specific content is key to both children and staff equally, in that opportunities to make clear what the children know and where they need to be empowers them to become highly motivated learners, building and adding their knowledge follows once prior knowledge has been accessed. In order to create confident learners with positive attitudes in Maths, Cockwood school prides itself on enrichment such as Times Table Rockstars day as well as NSPCC Number Day!

Implementation

- Staff use the vocabulary progression document to support their planning. Vocabulary is clearly marked on plans and used within lessons.
- Subject specific vocabulary is taught alongside the Maths concepts
- Sentence stems are visible in each classroom as prompts for high-quality talk
- Encouraging children to use appropriate vocabulary to describe their thought process supports the cognitive strand of the oracy framework
- Pupils are encouraged to listen actively and respond appropriately within lessons
- Children are encouraged to use vocabulary to build on the views of others, seek information and clarify through questioning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	One more One less Place Order Number Count Numbers up to twenty Number line Pictorial Answer Equals Read Write	Same as EYFS plus:	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous Year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
		Forwards Backwards Numerals Words Multiples Equal to More than Less than Fewer Most Least Identify Represent Digit Calculate	Ones Tens Two- digit Estimate Place Value Solve Problems Greater than > Less than < Nearest ten Number facts Partition Count in steps Zero Compare Determine Value	Hundreds Three-digit ten more one hundred more ten less one hundred less Roman numeral Numbers up to one thousand	Thousands Four- digit Negative number One thousand more One thousand less Decimal Decimal place Rounding Place holder Nearest ten Nearest hundred Nearest thousand One place Whole number Integer Tenths Hundredths	Ten thousands Hundred thousands Millions Context Steps of powers Decimal equivalents Two decimal places Thousandths Numbers up to one million	Intervals across zero Three decimal places Hundredths Thousandths Ten thousandths Numbers up to ten million

		Odd Even Pattern Numbers up to one hundred					
Addition and Subtraction	Add Subtract Addition Subtraction Adding Subtracting Number Number line Single digit Count on Count back Answer Doubling Halving Sharing Numbers to twenty Check	Same as EYFS plus: One step problem Concrete object Pictorial representation Missing number Problem Read Write Interpret Equals = Signs One-digit Two-digit Ones Menta Mentally	Same as EYFS & Year 1, plus: Columnar addition Columnar Subtraction Tens Order Inverse Relationship Calculation Solve problems Missing number problem Quantities Measures Formal Written method Mental method Method Operation Apply Whole number	Same as EYFS & KS1, plus: Three-digit number Hundreds Estimate Number facts	Same as previous Year groups, plus: Two step problems Context Four-digit	Same as previous year groups, plus: Increasingly large numbers More than 4 digits Rounding Determine Context Multi-step problems	Same as previous year groups, plus: Estimation Mixed operations
Multiplication and Division	Sharing Doubling	Same as EYFS plus:	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous Year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:

	Halving number pattern	Multiples Twos Fives Tens Number Multiply Divide Multiplication Division One step problem Answer Concrete object Pictorial representation Arrays Count Equals Write	Multiplication facts Division facts Multiplication tables Odd numbers Even numbers Share Equally Calculate	Missing number problem Estimate Inverse Formal written method Mathematical statement Recall Integer Two- digit One- digit	Derived facts Factors Factor pairs Scaling problems Three-digit	Decimals Four-digit Long multiplication Short division Remainders Context Common factors Common multiples Prime numbers Prime factors Composite numbers Square number Cube number Notation Squares Cubes	Scale factor Long division Whole number remainders Fractions Rounding Mixed operations
Measure	Measure Measurement Size Weight Capacity Compare Solve Problems Object Time	Same as EYFS plus:	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous Year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
		Length Height Long Short Longer Shorter Tall Double	Greater than > Less than < Equals = Intervals Standard units Estimate Direction Temperature Unit Scales	Duration Time taken Nearest minute Record Seconds a.m. p.m. noon midnight kilometre	Estimate Rectilinear figure Area Rectilinear shapes Convert	Square centimetres (cm2) Square metres (m2) Irregular shapes Volume (cm3) Cubes Cuboids Square numbers Cube numbers	Decimal notation Cubic centimetres (cm3) Cubic metres (m3) Cubic millimetre (mm3) Cubic kilometre (Km3) Decimal places formulae Miles

		Half Mass Heavy Light Heavier than Lighter than Volume Full Empty More than Less than Half Half full Quarter Quicker Slower Earlier Later Sequence events Chronological order Before After Next First Today Yesterday Tomorrow Morning Afternoon	Rulers Thermometers Measuring vessels Metres Centimetres Kilograms Grams Degrees Celsius Litres Millilitres Symbols Money Pounds (£) Pence (p) Different combinations Change Five past Ten past Quarter past Twenty past Twenty-five past Half past Twenty-five to Twenty to Quarter to Ten to Five to	add subtract millimetres perimeter simple 2-D shapes analogue clock roman numerals 12-hour 24-hour Leap year		Metric measure Metric units Imperial units Inches Pounds Pints	

		Evening Record Hours Minutes Hour Half past O clock Hands Clock face Seconds Coins Notes Dates Days Weeks Months					
Geometry (position and direction)	Position Distance Direction Move Movement Patterns	Same as EYFS plus:	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous Year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
		Half turn Quarter turn Three-quarter turn Left Right Up Down	Rotation Right angle Clockwise Anti-clockwise Order Arrange Sequence		Coordinates Quadrant Grid Translate Translation Axis X- axis Y-axis Spaces Unit Plot Point	Reflection	Four quadrants

					Polygon		
Geometry (properties of shape)	Shape Square Rectangle Circle Triangle Sides Straight side Curved side	Same as EYFS plus:	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous Year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
		2-D Shapes 3-D Shapes TwoDimensional ThreeDimensional Cuboid Cube Pyramid Cone Cylinder Sphere	Properties Compare Common Line symmetry Vertical line Edges Faces Vertices Pentagon Hexagon Heptagon Octagon Nonagon Decagon Kite Rhombus Polygon Square-based pyramid Triangular pyramid Triangular prism Rectangular prism Pentagonal prism Hexagonal prism Octagonal prism Octahedron Dodecahedron Tetrahedron Rectangular pyramid Pentagonal pyramid	Angle Turn Right angles Quarter of a turn Half-turn Three quarters of a turn Complete turn Horizontal lines Vertical lines Perpendicular lines Parallel lines	Lines of symmetry Symmetric figure Classify Geometric shapes Quadrilaterals Acute angle Obtuse angle	Angles Measure Degrees Missing lengths Missing angles Regular polygons Irregular polygons Degrees Estimate compare Reflex angle Point Straight line Multiples	Radius Diameter Circumference Nets

			Hexagonal pyramid Octagonal pyramid				
Fractions, Decimals and Percentages		Fraction Half Equal parts One whole Object Shape Quantity Quarter	Same as EYFS & Year 1, plus: Simple fractions Equivalent equivalence Count Interpret Construct Pictogram Tally chart Block diagrams Horizontal Vertical x- axis y-axis Key Title Chart title Simple tables Ask Answer Questions Counting Objects Category Sort	Same as EYFS & KS1, plus: Tenths Unit fractions Non - unit fractions Numerator Denominator Compare Order Add Subtract Solve problems	Same as previous Year groups, plus: Hundredths Decimal Decimal place One decimal place Two decimal places Round decimals Whole number Common equivalent fractions Decimal equivalents Dividing Ones Tenths Hundredths Simple measure Money problems	Same as previous year groups, plus: Thousandths Multiples Three decimal places Per cent Number of parts per hundred Percentages Decimal fraction Mixed numbers Improper fraction Proper fraction Convert Mathematical statements Multiply Percentage and decimal equivalents	Same as previous year groups, plus: Common factors Common multiples Decimal fraction equivalents Simplest form

			Quantity Total Compare Data				
Statistics			Interpret Construct Pictogram Tally chart Block diagrams Horizontal Vertical x- axis y-axis Key Title Chart Simple tables Ask Answer Questions Counting Objects Category Sort Quantity Total Compare Data	Same as EYFS & KS1, plus: Present Presented Graph Statistics Bar charts Tables Solve One - step questions Two - step questions Information	Same as previous Year groups, plus: Time graphs Comparison Problems	Same as previous year groups, plus: Timetables Line graph	Same as previous year groups, plus: Pie chart Calculate Mean Average

Algebra		Solve One -step problem Missing number Check Calculate problem Sequence Chronological	Same as Year 1, plus: Inverse Relationship Compare Order Arrange Pattern		Same as previous year groups, plus: Perimeter Algebra Algebraically	Same as previous year groups, plus: Properties Rectangles Deduce Related facts Missing lengths Missing angles	Same as previous year groups, plus: Missing number Problem Pairs Number sentence Variables Combination Possibility Enumerate Equation Formulae Generate Linear number sequence
Ratio and Proportion							Ratio Proportion Size Quantity Missing value Integer Multiplication Division Multiply Divide Solve Problem Calculate Percentage Comparison

							Unequal sharing Grouping Fractions Multiples

Impact

Our pupils are able to use subject specific language to articulate their thinking and justify their answers. Children use talk and vocabulary for a range of purposes, it can be exploratory talk where they are trying out new ideas or arranging information for a presentational purpose. Having the subject specific vocabulary facilitates them to ‘talk like a mathematician’.