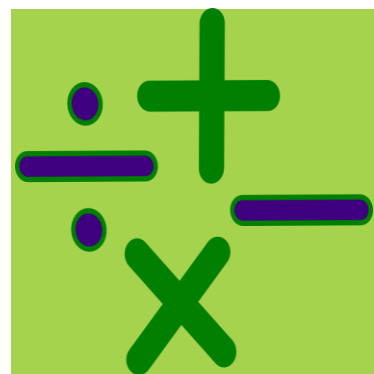


MATHS

Curriculum Overview and Progression Mapping



Upper
Wharfedale
Primary
Federation



Introduction

At the heart of our Maths curriculum lies the guiding light of our federation vision: **“Be the Light”** (Matthew 5:14). We believe every child carries a spark of curiosity and a unique brilliance waiting to shine. Through Maths, we nurture that light, encouraging children to think deeply, solve problems creatively, and approach challenges with confidence and joy.

Maths is more than numbers and equations: it’s a journey of discovery. It invites children to explore patterns, make connections, and see the beauty in logic and structure. Our curriculum fosters curiosity, resilience, and a lifelong love of learning, helping children grow into thoughtful, analytical individuals who appreciate the power of reasoning and the elegance of mathematical thinking.

Our core values -Love, Thankfulness, Trust, Forgiveness, and Kindness- are woven into every lesson and learning experience. They guide how we collaborate, persevere, and celebrate each child’s mathematical journey. In embracing these values, our pupils learn to ‘be the light’ using Maths to reflect who they are, to uplift others, and to illuminate the world with insight, clarity, and purpose.

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Intent Statement

At the Upper Wharfedale Primary Federation, our aim is for every child to grow into a resilient, confident, and skilled mathematician, equipped to apply their learning to the mathematical challenges they encounter in everyday life. Through a commitment to high-quality teaching and a well-structured, ambitious curriculum, we strive to create lessons that motivate and engage all learners, offering opportunities to develop and master mathematical skills through reasoning, creativity, and collaboration.

"Pure mathematics is, in its way, the poetry of logical ideas." — *Albert Einstein*

We are dedicated to ensuring that every child reaches their full potential, becoming fluent in mathematical concepts and thriving on the challenges and puzzles that Maths presents. We foster a culture where mistakes are embraced as part of the learning journey, helping children build perseverance and a growth mindset.

Recognising that mathematics is deeply embedded in many aspects of daily life, we believe it should not be taught in isolation. To support pupils in becoming effective problem-solvers and logical thinkers, all children engage in STEM and cross-curricular maths sessions throughout the academic year, allowing them to apply their skills in meaningful, real-world contexts.

Our curriculum is aligned with the aims of the National Curriculum for Mathematics, which ensures that all pupils:

- **Become fluent** in the fundamentals of mathematics through varied and frequent practice with increasingly complex problems, developing conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **Reason mathematically** by exploring lines of enquiry, making conjectures, and developing arguments or proofs using precise mathematical language.
- **Solve problems** by applying their mathematics to a range of routine and non-routine contexts, breaking down problems into manageable steps and persevering in seeking solutions.

Implementation

At the Upper Wharfedale Primary Federation, we are committed to delivering mathematics in a fun, engaging, and meaningful way. Our curriculum is designed to build progressively on children's existing knowledge, with concepts revisited and deepened over time through a spiral approach. This ensures that learning is reinforced and extended, allowing pupils to make strong connections across mathematical ideas.

We teach in mixed-age classes, which provides rich opportunities for collaboration, peer support, and differentiated learning. We use Whiterose Maths to ensure that all pupils access a broad and balanced curriculum that is carefully sequenced to support progression across year groups.

When introducing new concepts, our teachers follow a Concrete–Pictorial–Abstract (CPA) approach:

1. Concrete – Children begin by exploring concepts using physical resources and manipulatives to build a strong foundation.
2. Pictorial – Visual representations are introduced to help children make connections and support reasoning and problem-solving.
3. Abstract – Pupils move on to using symbols and formal methods, applying their understanding to more complex and abstract problems.

Each maths lesson includes a blend of mathematical talk, direct teaching, guided practice, and independent work. Carefully chosen tasks support children in developing fluency, reasoning, and problem-solving skills. Manipulatives and resources are available to all pupils to support their learning and encourage independence.

To reinforce learning, children revisit key areas of mathematics regularly. Lessons begin with opportunities to practise and consolidate mental arithmetic and previously taught skills, helping to strengthen recall and confidence.

Throughout the school, children are taught a range of mental and written strategies in line with our calculation policy. Once a variety of methods have been introduced, pupils are encouraged to select the most efficient strategy that works for them.

Feedback is given during or shortly after lessons, either verbally or through active marking. Where needed, targeted intervention is provided to address misconceptions and support progress.

Impact

At the Upper Wharfedale Primary Federation, our children develop a genuine love of mathematics, which they confidently express through pupil voice. They recognise the value of their learning and understand how mathematics connects to the wider world. Pupils build on their skills year after year, applying their knowledge with increasing fluency and seeing the relevance of maths in everyday life.

Our school's supportive ethos encourages both collaboration and independence, helping children to become resilient learners who are not afraid to take risks or learn from mistakes. Regular and ongoing assessment informs teaching and ensures that timely intervention is provided to support every child's success.

Following each unit of work, pupils complete post-learning assessments, enabling teachers to track progress against specific National Curriculum objectives and identify areas that may need revisiting. In addition, termly formal assessments are used across the school to monitor in-year progress and inform future planning.

The teaching of mathematics is closely monitored through lesson observations, learning walks, and work scrutiny, ensuring consistency and high standards across all classes. We have high expectations for all learners, and we aim for the majority of pupils to achieve age-related expectations, with many exceeding them.

SMSC and British Values in Our Maths Curriculum

Spiritual Development Through Maths

At the Upper Wharfedale Primary Federation, we embrace the spiritual dimension of mathematics, inviting children to experience the awe and wonder found in the patterns and structures of the world around them. From the symmetry of snowflakes to the stripes of a zebra, pupils explore how maths reveals the beauty and order in creation. We celebrate the "wow" moments when children make meaningful connections, such as discovering number sequences in nature and encourage a sense of personal achievement and joy in solving problems. Through this, children come to see mathematics not only as a subject but as a way to understand, appreciate, and connect with the world on a deeper level.

Moral Development Through Maths

At the Upper Wharfedale Primary Federation, we use mathematics as a powerful tool to explore moral and ethical questions that arise in everyday life. Through activities such as games involving unequal distribution of resources, children are encouraged to reflect on fairness, empathy, and justice considering how others might feel when treated unequally. Pupils also engage with real-world data that carries moral implications, such as comparing global spending on non-essentials with the funding for food and water aid. These experiences help children develop a deeper understanding of how mathematical thinking can support ethical decision-making and foster a sense of responsibility and compassion in the world around them.

Social Development Through Maths

At the Upper Wharfedale Primary Federation, we believe that mathematics is not just about numbers, it's about thinking together, solving problems, and sharing ideas. Our children develop strong problem-solving and reasoning skills through creative thinking, discussion, and collaboration. We foster a learning environment where pupils confidently communicate their mathematical understanding, support one another, and reflect on their progress through self and peer assessment. Working in pairs and groups is a key part of our approach, helping children to build teamwork, independence, and mutual respect—skills that extend far beyond the classroom and into the wider world.

Cultural Development Through Maths

At the Upper Wharfedale Primary Federation, we encourage children to appreciate the rich mathematical heritage across cultures and history. Pupils explore how number and measurement systems have evolved over time, including the continued use of Roman numerals, especially on clocks. They investigate geometric patterns from around the world, such as tessellations and symmetrical designs in architecture, gaining insight into how maths reflects cultural expression. Through these studies, children come to understand that mathematical language is universal and a shared tool for communication and problem-solving across the globe.

British Values

At the Upper Wharfedale Primary Federation, British Values are woven throughout our mathematics curriculum, helping children to develop a strong sense of respect, fairness, and responsibility. Pupils practise democracy and mutual respect by working in teams, taking turns, listening to others' ideas, and valuing different approaches. They learn the importance of rules and law through structured games, applying rules in calculations, algebra, and geometry. We promote individual liberty by encouraging children to take risks in problem-solving, make mistakes, and learn from them. Pupils are also given the freedom to devise their own methods for presenting ideas and solutions. Through exploring patterns and symmetry from other cultures, children gain a deeper appreciation of tolerance and diversity, recognising the global nature of mathematical thinking.

Maths beyond the Curriculum

At the Upper Wharfedale Primary Federation, we believe that mathematics is not limited to the classroom: it is a way of seeing and understanding the world. We nurture a sense of awe and wonder by encouraging children to explore mathematical patterns and structures in nature, particularly through Forest School, where they observe symmetry in leaves, spirals in pinecones, and sequences in petals and shells.

Beyond Forest School, maths is embedded in design and technology, where pupils measure, plan, and problem-solve; in PE, where they explore shape, position, and timing; and in music, where rhythm and pattern reinforce mathematical thinking. Through Global Spotlight Weeks, children investigate mathematical ideas from different cultures, deepening their appreciation of the universality and beauty of maths. These experiences enrich our curriculum and support children's spiritual development, helping them to reflect, connect, and find meaning in the world around them through the lens of mathematics.

Vocabulary Progression

We use the White Rose mixed-age planning framework, which ensures a carefully sequenced and coherent approach to teaching mathematics across year groups. This structure supports clear progression, allowing pupils to build on prior knowledge while deepening their understanding of key concepts over time. A vital part of this progression is the development of mathematical vocabulary, which is consistently modelled and reinforced by staff throughout lessons. Across the Federation, teachers have high expectations and ensure that children use precise mathematical language confidently and accurately in their daily learning. The progression of vocabulary is carefully mapped to align with curriculum objectives, enabling pupils to articulate their thinking, reason effectively, and engage in meaningful mathematical discussions.

Number and Place Value	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
One more	One less Place Order Number Count Numbers up to twenty Number line Pictorial	Same as EYFS, plus: Forwards Backwards Numerals Words Multiples Equal to More than	Same as EYFS & Year 1, plus: Ones Tens Two- digit Estimate Place Value Solve Problems	Same as EYFS & KS1, plus: Hundreds Three-digit ten more one hundred more ten less one hundred	Same as previous year groups, plus: Thousands Four- digit Negative number One thousand more One thousand	Same as previous year groups, plus: Intervals Ten thousands Hundred thousands Millions Context Steps of powers	Same as previous year groups, plus: Intervals across zero Three decimal places Hundredths Thousandths Ten
One less							

	Answer Equals Read Write	Less than Fewer Most Least Identify Represent Digit Calculate Odd Even Pattern Numbers up to one hundred	Greater than > Less than < Nearest ten Number facts Partition Count in steps Zero Compare Determine Value	less Roman numeral Numbers up to one thousand	less Decimal Decimal place Rounding Place holder Nearest ten Nearest hundred Nearest thousand One place Whole number Integer Tenths Hundredths	Decimal equivalents Two decimal places Thousandths Numbers up to one million	thousandths Numbers up to ten million
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:	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:
		One step problem Concrete object Pictorial representation Missing number Problem Read Write Interpret Equals = Signs One-digit Two-digit Ones Mental Mentally	Columnar addition Columnar subtraction Tens Order Inverse Relationship Calculation Solve problems Missing number problems Quantities Measures Formal Written method Mental method Method	Three-digit number Hundreds Estimate Number facts	Two step problems Context Four-digit	Increasingly large numbers More than 4 digits Rounding Determine Context Multi-step problems	Estimation Mixed operations

			Operation Apply Whole number				
Multiplication and division	sharing doubling halving number pattern	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:
		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 Repeated Division 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	Greater than > Less than < Equals = Intervals Standard units Estimate Direction	Duration Time taken Nearest minute Record Seconds a.m. p.m.	Estimate Rectilinear figure Area Rectilinear shapes Convert	Square centimetres (cm ²) Square metres (m ²) Irregular shapes Volume (cm ³)	Decimal notation Cubic centimetres (cm ³) Cubic metres (m ³)

		Double 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 Evening Record Hours Minutes	Temperature Unit Scales 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	noon midnight kilometre add subtract millimetres perimeter simple 2-D shapes analogue clock roman numerals 12-hour 24-hour Leap year		Cubes Cuboids Square numbers Cube numbers Metric measure Metric units Imperial units Inches Pounds Pints	Cubic millimetre (mm ³) Cubic kilometre (Km ³) Decimal places formulae Miles
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		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		Co-ordinates Quadrant Grid Axis X- axis Y-axis Spaces Unit Plot Point Polygon	Reflection Translate Translation	Four quadrants
Geometry (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 Two Dimensional Three Dimensional Cuboid Cube	Properties Compare Common Line symmetry Vertical line Edges Faces	Angle Turn Right angles Quarter of a turn Half-turn Three quarters	Lines of symmetry Symmetric figure Classify Geometric shapes	Angles Measure Degrees Missing lengths Missing angles Regular polygons	Radius Diameter Circumference Nets

		Pyramid Cone Cylinder Sphere	Vertices Pentagon Hexagon Heptagon Octagon Nonagon Decagon Kite Rhombus Polygon Square-based pyramid Triangular pyramid Pentagonal pyramid Hexagonal pyramid Octagonal pyramid	of a turn Complete turn Horizontal lines Vertical lines Perpendicular lines Parallel lines	Quadrilaterals Acute angle Obtuse angle	Irregular polygons Degrees Estimate compare Reflex angle Point Straight line Multiples	
Fractions, Decimals and Percentages		Fraction Half Equal parts One whole Object Shape Quantity Quarter	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:
			Simple fractions Equivalent equivalence Count	Tenths Unit fractions Non unit fractions Numerator Denominator Compare Order Add Subtract Solve problems	Hundredths Decimal Decimal place One decimal place Two decimal places Round decimals Whole number Common equivalent fractions	Thousandths Multiples Three decimal places Per cent Number of parts per hundred Percentages Decimal fraction Mixed numbers Improper	Common factors Common multiples Decimal fraction equivalents Simplest form

					Decimal equivalents Dividing Ones Tenths Hundredths Simple measure Money problems	fraction Proper fraction Convert Mathematical statements Multiply Percentage and decimal equivalents	
Statistics			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 Quantity Total Compare Data	Same as EYFS & KS1, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
				Present Presented Graph Statistics Bar charts Tables Solve One - step questions Two - step questions Information	Time graphs Comparison Problems	Timetables Line graph	Pie chart Calculate Mean Average
Algebra		Solve One-step problem Missing number	Same as EYFS & Year 1, plus:		Same as previous year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:
				Inverse	Perimeter	Properties	Missing number

		Check Calculate problem Sequence Chronological	Relationship Compare Order Arrange Pattern		Algebra Algebraically	Rectangles Deduce Related facts Missing lengths Missing angles	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 Multiple

