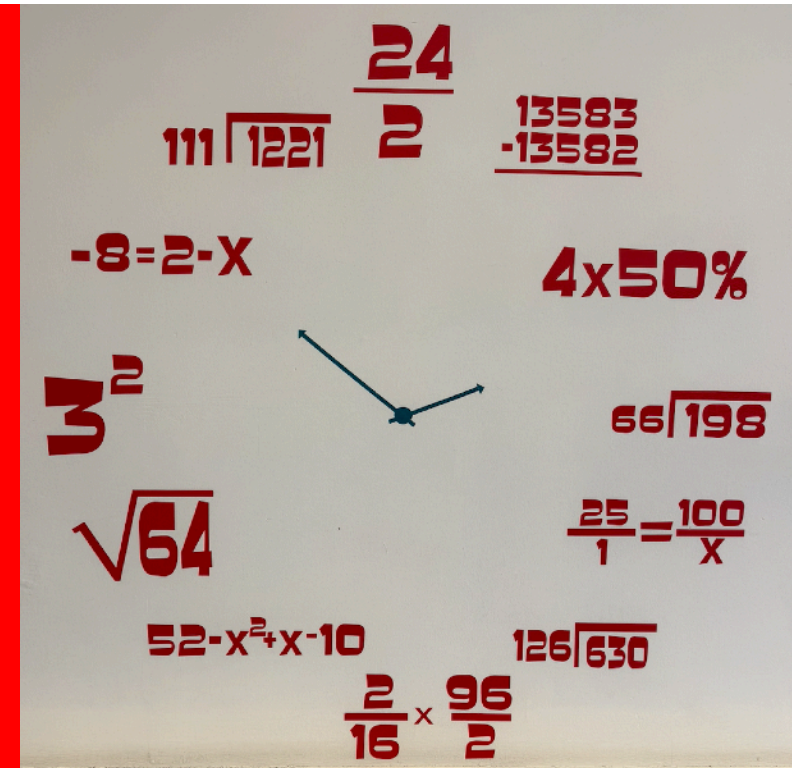


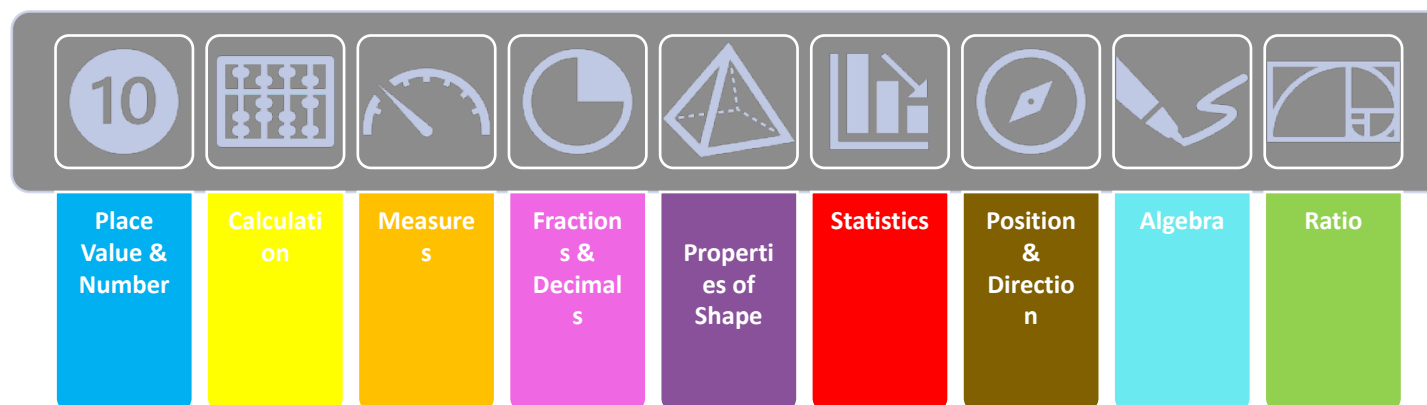
Maths Curriculum Overview



“A caring community, Serious about learning.”

Our Approach

At Old Fletton Primary School, the mastery approach underpins our mathematics curriculum. We recognise the importance of mathematics in daily life and ensure our children develop the ability to solve problems, reason, think logically, and work systematically and accurately. Arithmetic and basic mathematical skills are practised daily, informed by research on the ‘forgetting curve’ and effective recall practices to secure learning in long-term memory. Mathematics lessons follow Rosenshine’s principles of Direct Instruction, a research-backed approach proven effective for delivering content-rich subjects. Concepts are introduced using the concrete, pictorial, and abstract (CPA) approach, ensuring content is taught in a tangible and effective way. This enables deeper understanding. We consistently use pictorial representations, such as the bar model, to support pupils’ understanding of the four operations and fractions. This approach embeds a deeper understanding and mastery of the skill. Worked examples are also used to guide students through complex worded problems. Teachers are guided towards the National Centre for Excellence in the Teaching of Mathematics (NCETM) to aid planning. Learning is broken down into small, sequential steps, reflected in our ‘Steps to Mastery’ approach. Mathematics is taught daily across the school. In Early Years, this consists of two 15-minute sessions each day. In Years 1 and 2, mathematics is taught through two sessions totalling one hour daily. In Key Stage 2, mathematics lessons are one hour long and are divided into a 15-minute arithmetic session and a 45-minute main lesson. The NCETM’s *Mastering Number* programme is implemented in Early Years and Key Stage 1. This develops and consolidates children’s understanding of subitising and numbers within 20. Our ‘Steps to Mastery’ enable students to progress from fluency to reasoning within a session or over a sequence of lessons. We have high aspirations for all children to complete the same learning, with scaffolds provided where required. We recognise the importance of pupils having quick recall of multiplication facts. Preparation for the Year 4 Multiplication Check begins in Year 2, where pupils start learning their 2, 5, and 10 times tables within main mathematics lessons. In Years 3 and 4, pupils practise times tables using the *Number Sense Maths* scheme and *Times Table Rockstars*, which supports practice in lessons and at home.



Our Big Ideas

Our curriculum is designed to enable our children to work towards an understanding of the 'big ideas' in maths outlined below. This cumulative knowledge is developed over time through appropriate, age-related steps that enable pupils to develop a secure understanding.

By the time a child reaches Y6 we expect them to know that:

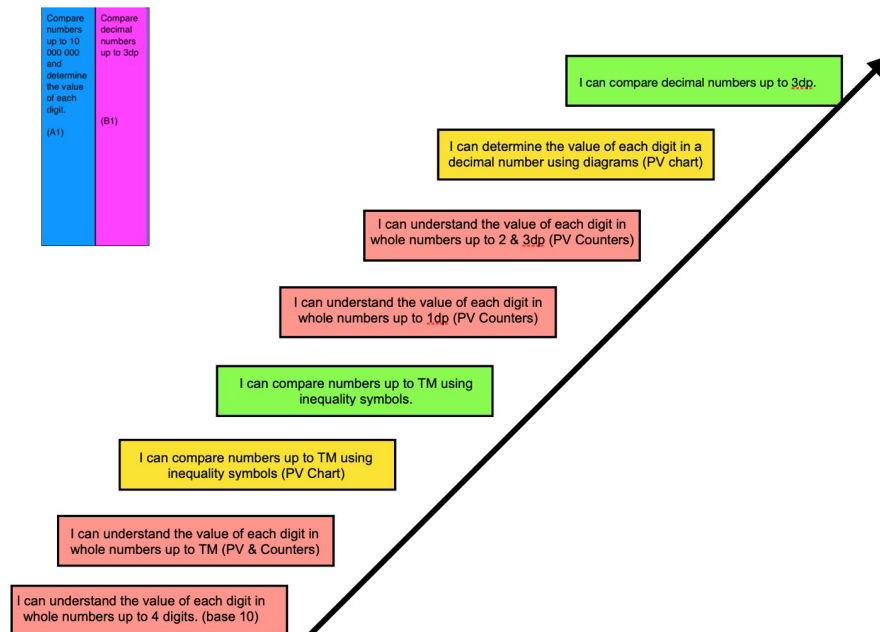
1. **Numbers** are infinite and each number can be associated with a unique point on a number line.
2. **Place value** denotes that 10 of something can be worth one of another and is the root of the base 10 system.
3. **Equivalence** is the idea that two or more things can have the same value.
4. **Estimation** involves creating an approximate solution instead of a precise calculation.
5. **Symbols** represent mathematical thinking and perform specific functions when placed in certain formations.
6. **Pattern seeking** is the identification of relationships between two or more numbers, shapes, objects or calculations.
7. **Classification** involves sorting numbers, shapes or calculations based on their properties.
8. **Numerical reasoning** involves understanding the relationships and differences between additive and multiplicative reasoning.

Reasoning

Why is it central to our approach?



Across our maths curriculum we have considered how to embed reasoning as a core component of each objective. Through the use of our 'Steps to Mastery' pupils progress through a series of small sequential steps beginning with the fluency element to the reasoning element throughout a lesson or sequence of lessons. Deliberate practice is used to expose the children to many aspects of reasoning and opportunities for consistent practice are provided. Using the CPA approach, pupils are exposed to multiple representations and are provided with the tools required to reason and encouraged to tackle problems with increased resilience, making links to prior knowledge where required. When new content related to worded problems are introduced, pupils undertake a pre assessment to determine the level of support required. Pupils are then grouped, relating to the level of support required, and worked examples and backward faded examples are used to support students that require it. The aim for all children is to move onto the independent activity and pupils are encouraged to always use pictorial representations such as the bar model to aid learning.



N	PRE SKILLS
	<ul style="list-style-type: none">* Learn to sing a range of number songs* Recite numbers to 10* Learn to recognise numbers 1 to 5 and beyond* Show finger numbers 1 to 5* Learn to count by pointing to each object* Learn that the last number you count is how many you have* Experiment with symbols* Begin to subitise to 3* Explore a wide range of patterns* Explore and build with shapes* Be exposed to measuring and comparative vocabulary (big/ bigger/biggest etc)* Be exposed to position and direction vocabulary (under/ backwards etc)

YR	Autumn		Spring		Summer	
End Points	<ul style="list-style-type: none"> - To learn to sing number songs - To begin to recognise, write, represent, count, subitise and build numbers 1 to 5 (representations - objects, cubes, fingers, dice Numicon, 5 frame) - To recognise the 1 more, 1 less relationship between numbers 1 to 5 - To count along a number track - To name simple 2D shapes - To recognise, continue and create ABAB patterns - To create a symmetrical pattern 	<ul style="list-style-type: none"> - deepen understanding of numbers 1 to 5 - To learn to recognise, write, represent, count and build numbers 1 to 5 in multiple ways (representations - objects, cubes, fingers, dice, Numicon, 10s frame, part/whole model, Rekenrek, numberline) - To know 1 more or 1 less than numbers to 5 - To begin to recognise, write, represent, count, subitise and build numbers 6 to 9 - To recognise the 1 more, 1 less relationship between numbers 6 to 9 - To compare numbers - To talk about capacity (full, empty, half full, nearly) - To name and describe 2D shapes - To compare sizes (bigger/smaller) - To compare weight (heavier/lighter) - To talk about routes and position 	<ul style="list-style-type: none"> - To begin to recognise, write, represent, count, subitise and build number 10 - deepen understanding of numbers 6 to 10 - To learn to recognise, write, represent, count and build numbers 6 to 10 in multiple ways (representations - objects, cubes, fingers, dice, Numicon, 10s frame, part/whole model, Rekenrek, numberline) - To know 1 more or 1 less than numbers to 10 - To use coins to build numbers to 10 - To compare numbers using more and fewer - To order numbers to 10 	<ul style="list-style-type: none"> - To count actions - To compare numbers more, fewer, equal - To add numbers to 5 - To subtract numbers to 5 - To identify the pattern of doubles - To identify odd and even numbers - To share objects equally between 2, 3, 4 or 5 people - To name simple 3D shapes - To talk about size (bigger/smaller/longer/shorter/taller) - To measure height using standard and non standard units - To use shapes to create symmetrical patterns 	<ul style="list-style-type: none"> - To learn to use Rekenreks - To represent numbers as '5 and a bit' - To position numbers on a number track - To begin to learn to recognise, write, count and build teens numbers - To recognise odd and even patterns in larger numbers - To recite numbers beyond 20 - To deepen understanding of how to build numbers to 10 in different ways, beginning to remember number facts - To add using numbers to 10 - To name and describe 3D shapes - To consolidate understanding of sharing equally - To use known number facts to pay with different coins 	<ul style="list-style-type: none"> - To remember number facts including bonds to 10 - To subtract using numbers to 5, remembering subtraction facts - To learn to recognise, write, count and build teens numbers - To recognise odd and even patterns in larger numbers - To compare and order numbers to 20 - To count in 2s - To name and describe 2D shapes
	<p>Continuous Provision</p> <ul style="list-style-type: none"> • Children have continual access inside and outside to mathematical resources which they may use freely for their own purposes • Activities are provided inside and outside to consolidate and practice mathematical skills taught within Mastery, whole class teaching or group teaching. This is usually in the week following the adult led teaching 					

Y1	Autumn		Spring		Summer	
Main Journey End Points	<ul style="list-style-type: none"> - Read and write numbers from 1-20 in numerals. - Identify and represent numbers using objects. (Ensuring numbers represent a quantity) - Describe events in their day using: before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening, earlier, later - Can add one digit and one digit numbers to 20, including 0. - Represent and use number bonds and related subtraction facts within 10. 	<ul style="list-style-type: none"> - Can add one digit and one digit numbers to 20, including 0. - Can subtract one digit and one digit numbers to 20, including 0. - Recognise and name common 2D shapes and basic properties - Recognise and name common 3D shapes and basic properties. - Can add one digit and two digit numbers to 20, including 0. - Can subtract one digit and two digit numbers to 20, including 0. - Represent and use number bonds and related subtraction facts within 10. 	<ul style="list-style-type: none"> - Recognise and name common 2D and 3D shapes and basic properties. - To sort 2D and 3D shapes using 2 circle Venn diagrams - Can add one digit and two digit numbers to 20, including 0. - Can subtract one digit and two digit numbers to 20, including 0. - Can read and write (phonetically) Days of the week - Can read and write (phonetically) months of the year. - Represent and use number bonds and related subtraction facts within 20. - Patterns: Odd Even, number patterns - introduce 50 square. - Patterns: Include Shapes 	<ul style="list-style-type: none"> - Recap to 20 go to 50 counting forwards and back - Represent numbers within 50 - tens and ones - Can add one digit and two digit numbers to 20, including 0. - Can subtract one digit and two digit numbers to 20, including 0. - Can tell the time to an hour and draw the hands on a clock face - Can tell the time to an hour and draw the hands on a clock face - Counting in 2's (Skip counting, Pattern spotting) - Knows what mass is and can measure using standard units. 	<ul style="list-style-type: none"> - Count 50-100 Count, more/less, represent - Knows what length is and can measure using standard units. - Can identify half of a quantity including objects. - Can identify half of a 2D shape. - Can share objects into 2 groups. - Count in multiples of 10 Concrete (arrays) and repeated addition including money. - Division with 10 Grouping and sharing Concrete. - Count in multiples of 5 - Concrete (arrays) and repeated addition including money - Count in multiples of 2 Identify groups of 5 in given multiples (establishing multiplication and division facts) - Can tell the time to half past and draw the hands on a clock face 	<ul style="list-style-type: none"> - Count in multiples of 2, 5 & 10s. - Solve multiplication calculations using arrays. - Can share objects into 4 groups - Can identify a quarter of a quantity including objects. - Knows what capacity is and can measure using standard units. - Solve one step problems that involve subtraction - Solve one step problems that involve subtraction - Identify coins and notes - Coins and Notes Introduce 20p, 50p, £20 - Worded problems and calculations using coins
<p>Continuous Provision</p> <ul style="list-style-type: none"> • Children have continual access inside and outside to mathematical resources which they may use freely for their own purposes • Activities are provided inside and outside to consolidate and practice mathematical skills taught within Mastery, whole class teaching or group teaching. This is usually in the week following the adult led teaching 						

Y2	Autumn		Spring		Summer	
Main Journey End Points	<ul style="list-style-type: none"> - Represent and use number bonds and related subtraction facts within 10. - Identify patterns of the number system (multiples of 10, adding 10) between 0 and 100. - Recognise the value of each digit in a 2 digit number. - Can partition two digit numbers into different variations of tens and ones. - Add a 1 digit number using mental methods efficiently, partitioning, compensating, bridging to support. - Represent and use number bonds and related facts within 20. - Subtract a 1 digit number using mental methods efficiently finding the difference, compensation and bridging to support. - Describe the properties of 2D shapes, using vertices, sides, curved and straight sides. - Identify lines of symmetry on a 2D shape in a vertical line. 	<ul style="list-style-type: none"> - Describe the properties of 3D shapes, using vertices, sides, faces curved and straight edges. - Recognise and describe 2 and 3D shapes using mathematical language. - Sort 2D and 3D shapes according to their properties using a Venn diagram. - Partition two 2 digit numbers on a number line. - Add three one digit numbers both mentally and using concrete resources. - Order and arrange 2D and 3D shapes in patterns and sequences. 	<ul style="list-style-type: none"> - Recognise find and identify $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ of a discrete 2D shape. - Recognise and use symbols for pounds and pence in a practical context. - Use different varieties of coins to make the same amount. - Subtract a 2 digit number from a 2 digit number using a number line to find the difference. 	<ul style="list-style-type: none"> - Use the inverse operation between adding and subtracting to check calculations for single digit. - Work out addition missing number problems using concrete and part whole. - Work out subtraction missing number problems using the part whole. - Identify patterns in the number system between 0-100. - Recognise, find and identify $\frac{1}{3}$ of a 2D shape and multiple objects. - Identify how many minutes are in an hour and tell the time to the nearest hour. - Draw hands on a clock face to the nearest hour. - Tell the time when it is $\frac{1}{4}$ past the hour.. 	<ul style="list-style-type: none"> - Count in steps of 2,3,5 from 0. - Draw hands on a clock face to $\frac{1}{4}$ past the hour. - Read scales in divisions of 2,5 and 10 in a practical context where numbers are given on a scale. - Use appropriate standards units to measure length and height in any direction (rulers). - Use appropriate standard units to measure mass (kg/g). - Answer 1 step worded problems that require adding and subtracting 2 digit numbers on a number line. 	<ul style="list-style-type: none"> - Use appropriate standard units to measure capacity (ml/l). - Compare different standard units (length, height, mass, temperature, capacity using $<$, $>$ and $=$). - Solve addition word problems involving money. - Interpret and construct simple pictograms and use the data to answer questions. - Interpret and construct simple tally charts and use data to answer questions. - Interpret and construct simple block diagrams and use data to answer questions. - Interpret and construct simple tables and use data to answer questions.

Y3	Autumn		Spring		Summer	
Arit hme tic End Poin ts			- Doubles Times Tables	- 2 Times Tables (8 new facts) - Squared Times Tables (7 new facts)	- Squared Times Tables (7 Times Tables) - 5 Times Tables (6 new facts) -	- 5 Times Tables (6 new facts) - - Consolidation of facts).
Mai n Jour ney End Poin ts	<ul style="list-style-type: none"> - Read and write numbers up to 999. - Recognise the PV of each digit in a 3 digit number. - Identify, represent and estimate numbers up to 1,000 using different representations (base ten - concrete). - Partition 2 and 3 digit numbers. - Find 10 and 100 more than a given number. - Count up in multiples of 50 and 100. - Use mental strategies for addition and subtraction. - Add and subtract two and three digit numbers using the formal method (no carrying, no exchanging). 	<ul style="list-style-type: none"> - Compare and order numbers under 1,000. - Add and subtract two and three digit numbers including carrying and exchanging. - Use the inverse to check answers to addition and subtraction calculations (part whole). - Solve missing number calculations using the inverse operation. - Measure, compare, add and subtract lengths. - Measure the perimeter of simple 2D shapes. - Identify right angles and angles that are greater or less than a right angle. - Describe 2D shapes using accurate language including right angles, parallel, perpendicular, horizontal, vertical. 	<ul style="list-style-type: none"> - Add and subtract any amounts of money and give change using £ and p (concrete). - Solve missing number calculations using the inverse operation (part-whole). - Describe 2D shapes using accurate language including, right angles, parallel, perpendicular, horizontal, vertical. - Add and subtract any amounts of money and give change using £ and p (CPA). - Measure and compare add and subtract mass (reading scales 1,5,10,50,100). - Write ÷ and x statements for the 2,5,10,3,6,4 and 8 times tables. - Tell the time to quarter past and to (analogue and digital). - Solve two step worded problems using addition and subtraction (bar model). - 	<ul style="list-style-type: none"> - Describe 3D shapes using accurate language. - Can tell the time to increments of 5 minutes (analogue and digital). - Can tell the time. - Know the number of seconds in a minute, days in each month, leap years. - Solve 1 step worded problems TUxU questions using times table (expanded method). - Recognise that 1 right angle is a quarter turn, 2 right angles is a half turn, 3 right angles is 3/4 of a turn and 4 is full turn. - Interpret data using pictograms and solve 1 step problems (bar model). 	<ul style="list-style-type: none"> - Solve one and two step (TUxU) problems using the expanded method. - Interpret data using pictograms and solve 2 step problems. - Interpret bar graphs and solve 2 step problems. - Derive related facts from times tables. - Solve simple division calculations using the formal method. - Recognise and find fractions of a discrete set of objects (unit and non unit). - Can compare and order fractions with the same denominator. 	<ul style="list-style-type: none"> - Can solve problems using addition and subtraction worded problems. - Interpret data using pictograms and solve 2 step word problems. - Solve one step worded problems related to time. - Add and subtract any amounts of £ and p. - Describe 3D shapes using appropriate language including edges, vertices, curved sides and faces.

Y4	Autumn		Spring		Summer	
Arithmetic End Points	<ul style="list-style-type: none"> - 3 Times Tables (5 new Facts) 	<ul style="list-style-type: none"> - 4 Times Tables (4 new facts) - 6 Times Tables (3 new facts) 	<ul style="list-style-type: none"> - 6 Times Tables (3 new facts) - 7 Times Tables (2 new facts) - 8 Times Tables (1 new fact) - Solve addition and subtraction calculations including carrying and exchanging - Solve short multiplication calculations (expanded method) - Use the inverse to solve multiplication/division facts. - Find fractions of amounts unit and non unit fractions - Use the inverse to solve multiplication/division facts. - Add and subtract fractions with the same denominator 	<ul style="list-style-type: none"> - 8 Times Tables (1 new fact) - 9 Times Tables (0 new facts) - Squared facts 10 & 11 Times Tables 12 Times Tables - Find fractions of amounts unit and non unit fractions. Add and subtract fractions with the same denominator - Solve addition and subtraction calculations including carrying and exchanging. Solve short multiplication calculations (expanded method) Use the formal written method to divide up to 4 digits by 1 digit inc remainders. Use the inverse to solve multiplication/division facts. 	<ul style="list-style-type: none"> - 12 Times Tables - Solve addition and subtraction calculations including carrying and exchanging - Solve short multiplication calculations - Use the formal written method to divide up to 4 digits by 1 digit inc remainders. - Add and subtract fractions with the same denominator - Find fractions of amounts unit and non unit fractions - 	
Main Journey End Points	<ul style="list-style-type: none"> - Read, write, order and compare numbers up to 9,999. - Round whole numbers to the nearest 10, 100 and 1,000. - Find 10, 100, 1000 more or less than a number. - Solve addition calculations up to 4 digits. - Solve subtraction calculations up to 4 digits. 	<ul style="list-style-type: none"> - Count up and down in tenths, hundredths and recognise that hundredths arise when dividing 1 by 100 and tenths by 10. - Recognise and write decimal equivalents of any number of tenths and hundredths. - Count backwards through zero including negative numbers. - Use the inverse to check answers to calculations (part-whole). - Short multiplication calculations (expanded method). 	<ul style="list-style-type: none"> - Solve addition and subtraction two step worded problems in context deciding on operations and methods. - Solve problems involving multiplication and addition. - Use the formal method for short division (up to 4 digits by 1). - Solve problems including increasingly harder fractions of quantities (unit and non unit). - Measure and calculate the perimeter of a rectilinear figure (including squares) cm and m. - Recognise factor pairs in commutativity in mental calculations. - 	<ul style="list-style-type: none"> - Divide 1 and 2 digit whole numbers by 10 and 100. - Convert between standard units of measure, - Estimate, calculate and compare different measures including money in pounds and pence. - Read, write and convert time between analogue and digital 12 and 24 hour clocks. - Solve whole number worded problems including four operations. - Recognise and write decimal equivalents of $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$. - Compare decimal numbers with the same number of dp up to 2dp. - Compare and classify geometric shapes including quadrilaterals and triangles. 	<ul style="list-style-type: none"> - Solve problems involving converting hours to minutes, minutes to seconds, years to months, weeks to days. - Describe positions on a 2D grid as coordinates in the first quadrant. - Plot specified points and draw sides to complete a given polygon. - Identify lines of symmetry in 2D shapes represented in different orientations. - Identify acute and obtuse angles with a range of shapes. - Compare and order angles up to two right angles by size. - Measure angles accurately using a protractor. - Interpret and present discrete and continuous data using appropriate graphical methods (bar charts, time graphs, line graphs). 	

Y5	Autumn		Spring		Summer	
Arit hme tic End Poin ts	<ul style="list-style-type: none"> • \times / \div 10, 100, 1000 • $+/-$ mixed digit • Short Mult & Short div • Long multiplication calculations • Multiplying 3 dingle digits - Fraction of amounts • Multiplying 3 dingle digits - Squared and cubed number calculations 	<ul style="list-style-type: none"> • Finding fractions of amounts • \times / \div 10, 100, 1000 - Using common multiples to express fractions in the same denomination • Adding fractions • Subtracting fractions - Adding and subtracting mixed numbers and fractions • Multiplying mixed numbers • Multiplying fractions • Dividing fractions • Multiplying mixed numbers 	<ul style="list-style-type: none"> • Finding fraction of amounts • Long Multiplication • Brackets • Multiplying 3 dingle digits • Adding fractions • Subtracting fractions • Multiplying mixed numbers • Dividing fractions • Squared numbers and cubed numbers • Brackets 	<ul style="list-style-type: none"> • \times / \div 10, 100, 1000 • Finding fraction of amounts • Missing number • Long Multiplication • Long Division • Adding & subtracting mixed number fractions \times / \div decimal numbers \times / \div fractions 	<ul style="list-style-type: none"> - Find fraction of amounts - Find percentages of amounts - Missing number calculations ($+/-$) - Adding and subtracting fractions - Adding and subtracting mixed number fractions - \times / \div decimals 	<ul style="list-style-type: none"> - Long division - X 3 single digits - Long multiplications - \times / \div fractions - \times / \div decimals - Find Percentage of amounts

<p>Main Journey End Points</p>	<ul style="list-style-type: none"> - Read & Write, numbers up to 1 000 000 and determine the value of each digit. - Identify the value of each digit in numbers up to 2dp - Identify, name and write equivalent fractions of a given fraction. - Compare numbers up to 1 000 000 and determine the value of each digit. - Compare decimal numbers up to 2dp - Identify, name and write equivalent fractions of a given fraction. - Order numbers up to 1, 000 000 and determine the value of each digit. - Order decimal numbers mixed decimal place - Order fractions including greater than 1 - To perform mental calculations for addition (Compensation/ counting on/ partitioning) - Round whole numbers to degree of accuracy - Use negative numbers in context and calculate intervals across zero - To perform mental calculations for multiplication including finding all factors pairs of a number and common factors of two numbers. - Round decimals with 2dp to whole numbers and nearest 1dp 	<ul style="list-style-type: none"> - Multiply and divide numbers mentally drawing upon known facts. - To solve addition and subtraction calculations including carrying up including six digits and mixed digits - To use the inverse to check calculations. - Solve addition and subtraction multistep problems in contexts, deciding which operations to use and why - Add and subtract fractions with the same denominator. - To multiply and divide by 10, 100 and 1,000 giving answers up to three decimal places. - Solve addition and subtraction multistep problems in contexts, deciding which operations to use and why - Add and subtract fractions with different denominators - Use, read, write and cover between standard units of measure. - Multiply proper fractions and mixed numbers by whole numbers - Short multiplication calculations (ThHTU x U) - Identify, name and write equivalent fractions of a given fraction. 	<ul style="list-style-type: none"> - Recognise the percent symbol and understand that percent relates to number of parts per 100. - Long multiplication calculations (ThHTU x - Solve whole number division problems involving short division, if required expressing remainder as a number, fraction or rounding depending on context - To know the fraction, decimal percentages equivalents for $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{100}$ - Use, read, write and cover between standard units of measure. - Solve whole number division problems involving short division, if required expressing remainder as a number, fraction or rounding depending on context - To solve problems involving calculation and conversion of units of measure. - Can recall all prime numbers under 20 and work out those under 100. - To know the fraction, decimal percentages equivalents. 	<ul style="list-style-type: none"> - Solve whole number multiplication problems including SAT problems - Know that angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. - Measure and calculate the perimeter of composite rectilinear shapes in cm and m. - Solve whole number multiplication problems including SAT problems - Draw given angles and measure them in degrees. - Calculate and compare the area of rectangles (including squares) and including using standard units, square cm² and square metre m² - Recognise and use square numbers and cubed numbers and the notation for squared and cubed. - Identify angles at a point and in one whole turn, angles on a straight line and $\frac{1}{2}$ turn total 180 and other multiples of 90. - Can answer problems that involve calculating area including missing number - To solve long division calculation questions. - Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals. - Can answer problems that involve calculating area including missing number 	<ul style="list-style-type: none"> - Read and write decimal numbers as fractions ($0.71 = \frac{71}{100}$) - Use properties of rectangles to deduce related facts and find missing lengths and angles. - Complete, read and interpret information tables. - Recognise and use square numbers and cubed numbers and the notation for squared and cubed. - Solve decimal word problems problems up to 3dp. - Use properties rectangles to deduce related facts and find missing lengths and angles. - Read and answer questions relating to bar graphs and tables - Long multiplication calculations (ThHTU x TU) - Solve decimal word problems problems up to 3dp. - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles - Read and answer questions relating to line graphs. 	
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Y6	Autumn	Spring	Summer			
Arithmetic End Points	<ul style="list-style-type: none"> - \times/\div 10, 100 and 1,000. - $+/-$ mixed digits - Short multiplication calculations. - Short division calculations. - Long multiplications - Multiplying 3 single digits. - Squared and cubed numbers. 	<ul style="list-style-type: none"> - Using common multiples to express fractions in the same denomination. - Adding and subtracting fractions. - Multiplying fractions. - Dividing fractions by whole numbers. 	<ul style="list-style-type: none"> - Finding percentages of amounts. - Long division calculations - Adding and subtracting fractions with different denominators. 	<ul style="list-style-type: none"> - Finding percentages of amounts. - Missing number calculations. - \times/\div decimal numbers and fractions. - Adding and subtracting mixed number fractions. 	<ul style="list-style-type: none"> - Mixed arithmetic calculations to time (Timed Arithmetic) 	<ul style="list-style-type: none"> - Mixed arithmetic calculations to time (Timed Arithmetic)
Main Journey End Points	<ul style="list-style-type: none"> - Read, write, order and compare whole numbers up to 10,000,000 and decimal numbers to 3dp. - Determine the value of each digit in whole numbers up to 10,000,000. - Round whole numbers to any degree of accuracy. - Solve missing number multiplication questions including multiplication grids. - To perform mental calculations for multiplication using factors and multiples. - Long multiplication calculations - Long division calculations. - \times/\div by 10, 100 and 1000. - Identify equivalent fractions. 	<ul style="list-style-type: none"> - Solve undoing questions including all four operations. - Use negative numbers in context and calculate intervals across zero. - Solve whole number worded problems including all four operations. - Identify common factors, multiples and prime numbers. - Know the fraction, decimal and percentage equivalents. - Complete fraction sequences. 	<ul style="list-style-type: none"> - Solve worded problems including all four operations. - Solve worded problems related to finding percentage of amounts. - Multiply and divide decimal numbers by whole numbers. - Solve fraction worded problems using the bar model. - Use read and write between standard units of measure. - Solve simple formulae algebra. - Calculate the area of parallelograms. 	<ul style="list-style-type: none"> - Solve problems involving the calculation and conversion of units of measure (including degrees). - Calculate volume of cubes and cuboids including missing sides. - Know the fraction decimal percentages equivalents. - Understand what ratio is and represent using the bar model. - Describe positions on a full coordinate grid. - Draw and translate shapes on a coordinate grid. - Interpret tables and bar charts and answer related questions. - Compare and classify shapes based on their properties parallelogram, trapezium, 4 types of triangle, kite, SASO properties. - Find missing angles in all 4 types of triangle, around a point, on straight lines and quadrilaterals. 	<ul style="list-style-type: none"> - Completing. Reflections on a coordinate grid. - Interpret line graphs and answer related questions. - Interpret pie charts and answer related questions. - Recognise and. Build simple 3D shapes including making nets. - Name parts of a circle and reason using this information. - Calculate, estimate and compare the. Volume of cubes and cuboids using standard units including cm^3, m^3 and extending to mm^3 and km^3. - Solve ratio worded problems 	

Products of Learning

What are our products?



Across our maths curriculum we have considered the different “products” that a pupil creates, as for us, these all provide insights into the extent to which they know, understand and can do something on their own terms. We have organised these products of learning into 4 different areas and use this to think about the best products for them to create based on the learning within a given aspect of maths. All staff have collectively developed the types of pupils products we use across our maths curriculum.

We curate our products of learning within our maths books or working wall, which build up during a unit of work. Many of our sessions are practical in nature and often involve lots of dialogue as part of guided practice. In addition, the way our pupils develop their ability to self regulate, take an active part in sessions and articulate their learning also act as products of learning.

Say

- Number facts
- Oral explanations of processes and decisions
- Describe properties of shapes and number
- Use key mathematical vocabulary in context
- Describe position and direction
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Write

- Number sentences
- Reasoning explanations
- Calculations
- Digits and words relating to mathematical topics.

Draw

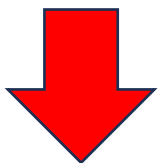
- Part Whole Models
- Bar Models
- Arrays
- Fraction Diagrams
- Venn diagrams
- Carroll diagrams
- Bar charts
- Pictograms
- Tally charts
- Tables
- Draw lines
- 2D shapes
- Angles
-

Do

- Sort and classify numbers and shapes
- Weigh objects
- Measure objects
- Measure angles
- Use manipulatives to represent their maths
- Order numbers and shapes according to a criterion
- Work in pairs and small groups

Feedback

What does it look like?



Our approach to feedback in maths is to ensure that it is timely and purposeful for a pupil. We recognise that verbal feedback is the most effective form of feedback as it usually takes the form of a 2 way learning conversation between the adult and pupil. Feedback at Old Fletton aims to:

- **Engage** young people in a regular and active dialogue about their learning.
- **Provide** opportunities for a pupil to expand their thinking, refine their products and practise elements that need further reinforcement.
- **Acknowledge** achievements.
- **Encourage** a pupil to move forward in their learning, by supporting them with errors and making corrections.
- **Improve** understanding of their own learning and themselves.
- **Highlight** next steps and further challenge where appropriate.

Learning conversations

- During session, practitioners will have conversations with pupils individually to provide feedback on their progress.
- At times this will involve modelling, corrections, developing next steps and providing further practise.

Written marking

- During lessons, practitioners utilise an "agile" marking approach to provide learners with feedback that is more instant and may provide corrections, affirmation of correct responses, support models or next steps.

Self marking

- Learners are given opportunities to mark their own answers/quizzes so they are able to have clarity on what they can do/know and where their focus needs to be.
- Opportunities to self mark are dependent on the activity and at Old Fletton the aim is for any self marking to support learners to understand how to move forward.



