

Brill C of E School

Curriculum Mathematics Progression Document

With the wind in our sails, 'we shall live life to the fullest' (John 10:10).

Supported by our Christian values, each Brill child strives to be resilient and is empowered to reach their potential. They will gain the confidence to play their part in our diverse and ever-changing world.

Jesus said 'I have come so that you might have life - life in all its fullness' St John's gospel Chapter 10, verse 10



EYFS

Mathematics in EYFS involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure. All of these areas should enhance the child's love of learning in maths and prepare them for KS1 maths learning and beyond.

National Curriculum Statutory Requirements – KS1

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

National Curriculum Statutory Requirements – Lower KS2

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with

accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

National Curriculum Statutory Requirements – Upper KS2

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Autumn

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> -Counts from 1-5 -Counting real life objects -Subitising 1-5 -Number formation 1-5 -Sorting into groups -Comparing groups -One more/one less -Time - my day 	<ul style="list-style-type: none"> -Place Value within 10 -Addition and subtraction within 10 -Recognise 2D and 3D shapes -Place Value within 20 -Consolidation 	<ul style="list-style-type: none"> -Place Value to 100 -Addition and subtraction to and across 100 -Money combinations of coins and notes -Multiplication; 2,5 and 10 tables 	<ul style="list-style-type: none"> -Place Value to 1,000 -Addition and subtraction up to and across 1,000 -Multiplication and division; 3,4 and 8 tables -Consolidation 	<ul style="list-style-type: none"> -Place Value to 1,000 -Addition and subtraction -Length and perimeter -Multiplication and division -Consolidation 	<ul style="list-style-type: none"> -Place value to 100,000 -Addition and subtraction -Statistics -Multiplication and division -Measurement; perimeter and area -Consolidation 	<ul style="list-style-type: none"> -Place Value to 1,000,000 -Addition and subtraction -Four operations -Fractions -Position and direction -Consolidation

Spring

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
------	--------	--------	--------	--------	--------	--------

<ul style="list-style-type: none"> -Number bonds to 5 -Counting to 6, 7 and 8 -Counting to 9 and 10 -Comparing groups up to 10 -Combining two groups to find a whole -Number bonds to 10 - ten frame and part-whole model -Spatial awareness -3D shapes -2D shapes 	<ul style="list-style-type: none"> -Addition and subtraction within 20 -Place Value within 50. Multiples of 2,5 and 10 -Measure units of length and height -Measure units of mass and capacity -Consolidation 	<ul style="list-style-type: none"> -Division 2,5 and 10 tables -Statistics -Properties of shape -Fractions -Length and height -Consolidation 	<ul style="list-style-type: none"> -Multiplication and division -Money -Statistics -Measurement; length and perimeter -Fractions -Consolidation 	<ul style="list-style-type: none"> -Multiplication and division -Area -Fractions -Decimals -Consolidation 	<ul style="list-style-type: none"> -Multiplication and division -Fractions -Decimals and percentages -Consolidation 	<ul style="list-style-type: none"> -Decimals -Percentages -Algebra -Time -Perimeter, area and volume -Ratio -Consolidation
--	--	--	---	--	---	---

Summer

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> -Making simple patterns -Exploring more complex patterns -Adding by counting on -Taking away by counting back -Doubling -Halving and sharing -Odds and evens 	<ul style="list-style-type: none"> -Multiplication and division -Fractions; halves and quarters -Movement turns -Place Value within 100 -Money; coins and notes -Time; sequence of events, on hour and half hour, days/weeks/months -Consolidation 	<ul style="list-style-type: none"> -Position and direction -Problem solving -Time -Mass, Capacity and temperature -Investigations 	<ul style="list-style-type: none"> -Fractions -Time -Properties of shape -Measurement; Mass and capacity -Consolidation 	<ul style="list-style-type: none"> -Decimals -Money -Time -Statistics -Properties of shape -Position and direction -Consolidation 	<ul style="list-style-type: none"> -Decimals -Properties of shape -Position and direction -Measurement; converting units -Volume -Consolidation 	<ul style="list-style-type: none"> -Properties of shape -Problem solving -Statistics -Investigations -Consolidation

-Length, height and distance -Weight -Capacity						
--	--	--	--	--	--	--

Place Value

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> -Counts reliably with numbers from 1-20 placing them in order -Tell which number is one more or less than a given number -Write numerals up to 20 with increasing accuracy -Records numbers from 1-20 and associates with objects -Recognises 0 as none in stories and rhyme, counting and ordering 	<ul style="list-style-type: none"> -Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number -Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens -When given a number, identify one more and one less -Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than 	<ul style="list-style-type: none"> -count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward -recognise the place value of each digit in a two-digit number (tens, ones) -identify, represent and estimate numbers using different representations, including the number line -compare and order numbers from 0 up to 100; use and = signs -read and write numbers to at least 100 in numerals and in words -reason and use place value and number facts to solve problems. 	<ul style="list-style-type: none"> -Count from 0 in multiples of 4,8,50 and 100 including counting up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. -find 10 or 100 more or less than a given number -Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) and Compare and order numbers up to 1000 -Identify, represent and estimate numbers using different representations -Read and write numbers up to 1000 in numerals and words -Solve number problems involving these ideas. 	<ul style="list-style-type: none"> -Count in multiples of 6, 7, 9, 25, 100 including counting backwards through zero to include negative numbers. -Recognise place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) and find 1000 more or less than a given number -Identify, represent and estimate numbers using different representations. -Round any number to the nearest 10,100 or 1000, Order and compare numbers beyond 1000 -Solve number and practical problems that involve all of the above and with increasingly large positive numbers -Read Roman Numerals to 100 (I to C) and know 	<ul style="list-style-type: none"> -Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. -Count forwards or backwards in steps of power of 10 for any given number up to 1 000 000 which includes interpreting negative numbers in context, count forwards and backwards with positive and whole numbers, including through zero. -Round any number up to 1 000 000 to the nearest 10,100,1000,100 000 -Solve number problems and practical problems that involve all of the above. -Read roman numerals to 1000 (M) and 	<ul style="list-style-type: none"> -To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. -Round any whole number to a required degree of accuracy. -To use negative numbers in context, and calculate intervals across zero to calculate the interval from -20 to +100. -To know and use the terms: units, tens, hundreds, thousands, ten thousands, hundred thousands, one million, and ten million correctly.

	(fewer), most, least -Read and write numbers from 1 to 20 in numerals and words. -Recognise odd and even numbers up to 20.		-Pupils can use confidently multiples of 2, 3, 4, 5, 8, 10, 50 and 100 and recall the times tables for these.	that over time, the numeral system changed to include the concept of zero and place value.	recognise years written in Roman numerals.	
--	--	--	---	--	--	--

Subject Specific Vocabulary

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 Answer Equals Read Write	Same as EYFS, plus: Forwards Backwards Numerals Words Multiples Equal to More than Less than Fewer Most Least Identify Represent Digit Calculate Odd Even Pattern Numbers up to one Hundred	Same as EYFS & Year 1, plus: 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	Same as EYFS & KS1, plus: Hundreds Three-digit ten more one hundred more ten less one hundred less Roman numeral Numbers up to one thousand	Same as previous year groups, plus: 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	Same as previous year groups, plus: Ten thousands Hundred thousands Millions Context Steps of powers Decimal equivalents Two decimal places Thousandths Numbers up to one million	Same as previous year groups, plus: Intervals across zero Three decimal places Hundredths Thousandths Ten thousandths Numbers up to ten million

Calculations

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>-Using quantities and objects, adds and subtracts two single-digit numbers and counts on or back to find the answer.</p> <p>-Using numbers up to 10, solves problems involving addition or subtraction, including comparing two sets to find a numerical difference.</p> <p>-Begins to know by heart all pairs of whole numbers with totals up to 10 and uses these facts to add or subtract a pair of numbers mentally.</p> <p>-Moves forwards and backwards using a number line to 20.</p> <p>-Solves problems, including doubling, halving and sharing.</p> <p>-Recognises, reads and identifies</p>	<p>-read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</p> <p>-represent and use number bonds and related subtraction facts within 20</p> <p>-add and subtract one-digit and two-digit numbers to 20, including zero</p> <p>-solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.</p> <p>-solve one-step problems involving multiplication and division, by</p>	<p>-solve problems with addition and subtraction: -using concrete objects and pictorial representations, including those involving numbers, quantities and measures</p> <p>-applying their increasing knowledge of mental and written methods</p> <p>-recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p>-add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers <p>-show that addition of two numbers can be done in any order (commutative) and</p>	<p>-Can add and subtract mentally: A three digit number and tens</p> <p>-Can add and subtract numbers with 2 digits, using formal written methods - Columnar addition and subtraction.</p> <p>-Can estimate the answer to a calculation and can use the inverse operation to check answers.</p> <p>-To solve problems, including missing number problems using number facts, place value.</p> <p>-Write and calculate mathematical statements for multiplication and division using the tables that you know.</p> <p>-Calculate 2 digit by 1 digit in a written method with occasional errors</p> <p>-Solve problems including missing numbers involving multiplication, positive and negative integers which include calculating</p>	<p>-Add and subtract numbers with 3 digits using formal written methods of columnar addition and subtraction where appropriate.</p> <p>-Solve addition and subtraction two-step problems in context deciding on which operation to use and estimate and use inverse operation too check answers to a calculation.</p> <p>-Recall all multiplication facts for multiplication tables up to 12×12.</p> <p>-Use place value, know and derived facts to multiply and divide mentally including: multiplying by 0 and 1; dividing by 1.</p> <p>-Multiply mentally using a variety of strategies 3 one digit numbers.</p> <p>-Multiply two-digit numbers by a one digit number using formal written methods.</p>	<p>-Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in context of a problem, levels of accuracy.</p> <p>-Add and subtract mentally with increasingly large numbers.</p> <p>-Solve addition and subtraction multi step problems in contexts</p> <p>-Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers.</p> <p>-To know and use vocabulary of prime numbers, prime factors and composite (non prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p>	<p>-Multiply multi-digit numbers up to a two digit whole number using the formal written method of long multiplication. To use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.</p> <p>-Divide numbers up to 4 digits by a two digit whole number using the formal written method of long division and interpret remainders according to the context. To use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.</p>

<p>number positions on a number line to 20.</p> <ul style="list-style-type: none"> -Understands that 0 can be used as a place holder. -Understands the operations of multiplication and division as repeated addition and subtraction. 	<p>calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p> <ul style="list-style-type: none"> -Recall the multiplication facts for the 2, 5, 10 multiplication table and use them to derive division facts (using any method). -Can use doubling and halving facts for numbers up to 10 and other significant double (Eg 50 doubled is 100) 	<p>subtraction of one number from another cannot</p> <ul style="list-style-type: none"> -Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. -recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers -calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs -show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot -solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and 	<p>2 digit by 1 digit in a written method with occasional errors</p>		<ul style="list-style-type: none"> -Multiply up to 4 digits by 1 digit using a formal written method 	<ul style="list-style-type: none"> -To identify common factors, common multiples and prime numbers. -Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. -To solve problems involving the calculation of percentages -To solve problems involving similar shapes where the scale factor is known or can be found.
--	---	---	--	--	---	---

division facts, including problems in contexts

Subject Specific Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><u>Addition and Subtraction</u> Add Subtract Addition Subtraction Adding Subtracting Number Number line Single digit Count on Count back Answer Doubling Halving Sharing Numbers to twenty Check</p>	<p><u>Addition and Subtraction</u> <i>Same as EYFS, plus:</i> One step problem Concrete object Pictorial representation Missing number Problem Read Write Interpret Equals = Signs One-digit Two-digit Ones Mental Mentally</p> <p><u>Multiplication and Division</u> Multiples Twos Fives Tens Number Multiply Divide</p>	<p><u>Addition and Subtraction</u> <i>Same as EYFS & Year 1, plus:</i> Columnar addition Columnar Subtraction Tens Order Inverse Relationship Calculation Solve problems Missing number problems Quantities Measures Formal Written method Mental method Method Operation Apply Whole number</p> <p><u>Multiplication and Division</u> <i>Same as Year 1, plus:</i> Multiplication facts Division facts Multiplication tables</p>	<p><u>Addition and Subtraction</u> <i>Same as EYFS & KS1, plus:</i> Three-digit number Hundreds Estimate Number facts</p> <p><u>Multiplication and Division</u> <i>Same as KS1, plus:</i> Missing number problem Estimate Inverse Formal written method Mathematical statement Recall Integer Two- digit One- digit</p>	<p><u>Addition and Subtraction</u> <i>Same as previous year groups, plus:</i> Two step problems Context Four-digit</p> <p><u>Multiplication and Division</u> <i>Same as previous year groups, plus:</i> Derived facts Factors Factor pairs Scaling problems Three-digit</p>	<p><u>Addition and Subtraction</u> <i>Same as previous year groups, plus:</i> Increasingly large numbers More than 4 digits Rounding Determine Context Multi-step problems</p> <p><u>Multiplication and Division</u> <i>Same as previous year groups, plus:</i> Decimals Four-digit Long multiplication Short division Remainders Context Common factors Common multiples Prime numbers Prime factors Composite numbers Square number Cube number Notation</p>	<p><u>Addition and Subtraction</u> <i>Same as previous year groups, plus:</i> Estimation Mixed operations</p> <p><u>Multiplication and Division</u> <i>Same as previous year groups, plus:</i> Scale factor Long division Whole number remainders Fractions Rounding Mixed operations</p>

	Multiplication Division One step problem Answer Concrete object Pictorial representation Arrays Count Equals Write	Odd numbers Even numbers Share Equally Repeated division Calculate			Squares Cubes	
--	--	---	--	--	------------------	--

Fractions

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>-recognise, find and name a half as one of two equal parts of an object, shape or quantity</p> <p>-recognise, find and name a quarter as one of four equal parts of an object, shape or quantity</p>	<p>-Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity</p> <p>-Write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.</p>	<p>-Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators and recognise and use fractions as numbers with small denominators.</p> <p>-Recognise and show, using diagrams, equivalent fractions and compare and order fractions with the same denominators.</p> <p>-Solve problems involving fractions.</p>	<p>-Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>-Solve problems involving fractions to calculate quantities, including non-unit fractions where the answer is a whole number.</p> <p>-Add and subtract fractions with the same denominator</p> <p>-Recognise and write decimal equivalents of any number of tenths or hundredths. ($\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$)</p> <p>-Compare numbers with the same number of</p>	<p>-Compare and order fractions whose denominations are all multiples of the same number.</p> <p>-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundreds.</p> <p>-Recognise mixed numbers and improper fractions and can convert between the two.</p> <p>-Add and subtract fractions with the same denomination including multiples of the denominators.</p>	<p>-Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.</p> <p>-Multiply simple pairs of proper fractions, writing the answer in its simplest form and divide proper fractions by whole numbers.</p> <p>-Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by</p>

				<p>decimal places by rounding decimals with one decimal place to the nearest whole number</p>	<p>-Read, write and make connections between fractions and decimals and know the relationships between decimals, percentages and fractions. -Round decimals with two decimal places to the nearest whole number and to one decimal place -Solve problems with decimals up to two decimal places.</p>	<p>10,100 and 1000 giving answers to up to 3 decimal places. -To multiply one-digit numbers with up to two decimal places by whole numbers and to use written division methods in cases where the answer has up to two decimal places -To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. -To know and find 1% of a value, 25%, 50% and 75% of a value. -Solve problems involving similar shapes where the scale factor is known or can be found. -To locate direction in two</p>
--	--	--	--	---	--	--

						quadrants accurately -To use common factors to simplify fractions; use common multiples to
--	--	--	--	--	--	---

Subject Specific Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Fraction Half Equal parts One whole Object Shape Quantity Quarter	Same as EYFS & Year 1, plus: Simple fractions Equivalent equivalence Count	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

Measurement

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-Uses everyday language to talk about size and weight to compare quantities and	-compare, describe and solve practical problems for:	-choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm);	-Measure, compare and add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	-To convert between different units of measure -Measure and calculate the perimeter of	-Convert between different units of measure (for example, km and m, cm and m)	-To use decimal notation to three decimal places to solve calculations with measures.

<p>objects and orders them by a given criteria.</p> <ul style="list-style-type: none"> -Uses everyday language to talk about capacity to compare quantities and to solve problems. -Measures and orders more than 2 objects using direct comparison. -Has the opportunity to use coins and notes in role play or in everyday environments. -Starts to become familiar with coins and their names. -Looks for the value of the coin by finding the number on it. -Orders everyday events logically. -Begins to use the vocabulary of time. -Begins to show awareness of ways of measuring time eg clocks, watches. -Follows own timetable independently. 	<ul style="list-style-type: none"> -lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] -mass/weight [for example, heavy/light, heavier than, lighter than] -capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] -time [for example, quicker, slower, earlier, later] -measure and begin to record the following: <ul style="list-style-type: none"> -lengths and heights -mass/weight -capacity and volume -time (hours, minutes, seconds) -recognise and know the value of different 	<p>mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</p> <ul style="list-style-type: none"> -compare and order lengths, mass, volume/capacity and record the results using >, < and = -recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value -find different combinations of coins that equal the same amounts of money -Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change -compare and sequence intervals of time -tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times -Know the number of minutes in an hour and 	<ul style="list-style-type: none"> -Measure the perimeter of simple 2d shapes. -Add and subtract amounts of money to give change, using both £ and p in practical contexts. -Tell and write time from an analogue clock, 12 and 24 hour clock. (Ten past 2 = 2:10) and can compare durations of events (calculate how long tasks have taken. To know the number of seconds in a minute and the number of days in each month, year and leap year. -To know and use the roman numerals I to XII with relation to the clock. -Estimate and read time with increasing accuracy to the nearest minute using correct vocabulary. -Know the number of seconds in a minute and the number of days in each month, year and leap year. 	<p>rectilinear (including squares) in centimetres and meters.</p> <ul style="list-style-type: none"> -Find the area of rectilinear shapes by counting the squares. -Estimate, compare and calculate different measures, including money in pounds and pence. -Read, write and convert time between analogue and digital 12 and 24 hour clock 	<ul style="list-style-type: none"> -Understand and use approximate equivalences between metric and common imperial units such as inches, pounds and pints. -Measure and calculate perimeter of composite rectilinear shapes in cm and m. -Calculate and compare the area of rectangles (including squares) and including using standard units squared centimetres and squared m and estimate the area of irregular shapes. -Estimate volume and capacity of shapes. -Solve problems involving converting between units of time. 	<ul style="list-style-type: none"> -To use compound units for speed such as miles per hour -To read and convert between standard units, converting measurements of length, mass, volume and time from smaller units of measure. -Use , add and subtract positive and negative integers (money and temperature) -Convert larger numbers in cm - m, ml-l, g - kg and minutes to hours. -Can covert miles and kilometres. -To recognise that shapes with the same area can have different perimeters. -Can draw a number of shapes with the same perimeter. -I can recognise when it is possible to use formula for area and volume.
--	--	--	--	---	--	---

	<p>denominations of coins and notes</p> <p>-sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <p>-recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p>-tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p>	<p>the number of hours in a day.</p>				<p>-I can find the area of a triangle using the formula.</p> <p>I can find the area of a parallelogram using formula</p>
--	---	--------------------------------------	--	--	--	--

Subject Specific Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure Measurement Size Weight Capacity Compare Solve Problems Object	Same as EYFS, plus: Length Height Long Short Longer Shorter Tall	Same as EYF & Year 1, plus: Greater than > Less than < Equals = Intervals Standard units Estimate Direction	Same as EYFS & KS1, plus: Duration Time taken Nearest minute Record Seconds a.m. p.m.	Same as previous year groups, plus: Estimate Rectilinear figure Area Rectilinear shapes Convert	Same as previous year groups, plus: Square centimetres (cm ²) Square metres (m ²) Irregular shapes Volume (cm ³) Cubes Cuboids	Same as previous year groups, plus: Decimal notation Cubic centimetres (cm ³) Cubic metres (m ³) Cubic millimetre (mm ³) Cubic kilometre

Time	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 Hour Half past	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	noon midnight kilometre add subtract millimetres perimeter simple 2-D shapes analogue clock roman numerals 12-hour 24-hour Leap year		Square numbers Cube numbers Metric measure Metric units Imperial units Inches Pounds Pints	(Km ³) Decimal places formulae Miles
------	---	--	--	--	---	---

	O clock Hands Clock face Seconds Coins Notes Dates Days Weeks Months Years					
--	--	--	--	--	--	--

Geometry

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>-Recognises, creates and describes patterns.</p> <p>-Explores characteristics of everyday objects and shapes and uses mathematical language to describe them, using basic properties such as large, small, rectangle, triangle.</p> <p>-Responds to mathematical language describing properties of 2d and 3d shapes, and, when prompted,</p>	<p>-recognise and name common 2-D and 3-D shapes, including:</p> <p>-2-D shapes [for example, rectangles (including squares), circles and triangles]</p> <p>-3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</p> <p>-Describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p>	<p>-Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</p> <p>-identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p> <p>-identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</p> <p>-Compare and sort common 2-D and 3-D shapes and everyday objects.</p> <p>-Order and arrange combinations of</p>	<p>-To draw 2d shapes accurately and to make 3d shapes using modelling materials.</p> <p>-Recognise 3d shapes in different orientations and describe them using their properties which include recognising angles as a property of shapes or a description of a turn.</p> <p>-Identify right angles, recognise that two angles make a half turn, three make three quarters of a turn and four a complete turn and to identify whether angles are greater or less than a right angle.</p> <p>-Identify horizontal and vertical lines and pairs</p>	<p>-Solve problems involving multiplying and adding, including using the distributive law to multiply two digit number by a one digit.</p> <p>-Plot specific points and draw sides to complete a given polygon.</p> <p>-To interpret and present discrete and continuous data using appropriate graphical methods: bar charts and time graphs this includes solving comparison, sum and difference problems using information presented in bar charts, pictograms and line graphs.</p>	<p>-To identify 3d shapes including cubes and other cuboids from 2d representations</p> <p>-To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles and to draw accurately given angles and measure them in degrees.</p> <p>-Identify angles at a point and one whole turn (total 360) and identify angles at a point on a straight line and $\frac{1}{2}$ turn total 180 degrees.</p> <p>-Use properties of rectangles to deduce related facts and find</p>	<p>-To draw shapes using given dimensions and angles (including estimating angles) and to recognise, describe and build simple 3d shapes including nets.</p> <p>-Can classify triangles in terms of their properties.</p> <p>-To describe triangles, squares and rectangles according to their properties.</p> <p>-To know the properties of parallelogram, trapezium and rhombus.</p>

<p>indicates a given property e.g. side, edge, vertex or face.</p> <p>-Responds to comparative language with regard to shape, and, when prompted, indicates which shape is larger or smaller.</p> <p>-Uses everyday language for properties and positions eg, 'top', 'bottom', 'side'.</p> <p>-Recognises terms describing position such as 'on top', 'in front of', 'behind', 'in the middle' and 'in between'.</p> <p>-Recognises directional symbols such as arrows.</p>		<p>mathematical objects in patterns and sequences</p> <p>-Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).</p>	<p>of perpendicular and parallel lines.</p>	<p>-Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to years.</p>	<p>missing lengths and angles.</p> <p>-Distinguish between regular and irregular polygons based in reasoning about equal sides and angles.</p> <p>-To identify, describe and represent position of a shape following a reflection or translation using appropriate language and know that the shape has not changed.</p>	<p>-To know that angles in a triangle add up to 180 degrees and to know four angles of a quadrilateral add up to 360 degrees.</p> <p>-To know the parts of a circle: Diameter, radius and circumference and to know the diameter is twice the radius.</p> <p>-To know where angles meet at a point are on a straight line, or are vertically opposite, and find the missing angles. (Triangles, quadrilaterals, parallelogram, rhombus and trapezium.</p> <p>-Point out parallel planes and symmetry associated with 3d shape.</p> <p>-Describe positions on a full coordinate grid (all four quadrants)</p>
---	--	---	---	---	--	--

-To draw and translate and reflect shapes in two quadrants.

Subject Specific Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<u>Properties of shape</u> Shape Square Rectangle Circle Triangle Sides Straight side Curved side <u>Position and direction</u> Position Distance Direction Move Movement Patterns	<u>Properties of shape</u> <i>Same as EYFS,</i> plus: 2-D Shapes 3-D Shapes Two- Dimensional Three- Dimensional Cuboid Cube Pyramid Cone Cylinder Sphere <u>Position and direction</u> <i>Same as EYFS,</i> plus: Half turn Quarter turn Three-quarter turn Left Right Up Down	<u>Properties of shape</u> <i>Same as EYFS & Year 1, plus:</i> 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	<u>Properties of shape</u> <i>Same as EYFS & KS1, plus:</i> 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 <u>Position and direction</u> <i>Same as EYFS & Year 1</i>	<u>Properties of shape</u> <i>Same as previous year groups, plus:</i> Lines of symmetry Symmetric figure Classify Geometric shapes Quadrilaterals Acute angle Obtuse angle <u>Position and direction</u> <i>Same as previous year groups, plus:</i> Co-ordinates Quadrant Grid Translate Translation Axis X- axis Y-axis Spaces Unit Plot Point Polygon	<u>Properties of shape</u> <i>Same as previous year groups, plus:</i> Angles Measure Degrees Missing lengths Missing angles Regular polygons Irregular polygons Degrees Estimate compare Reflex angle Point Straight line Multiples <u>Position and direction</u> <i>Same as previous year groups, plus:</i> Reflection	<u>Properties of shape</u> <i>Same as previous year groups, plus:</i> Radius Diameter Circumference Nets <u>Position and direction</u> <i>Same as previous year groups, plus:</i> Four quadrants

		Pentagonal pyramid Hexagonal pyramid Octagonal pyramid <u>Position and direction</u> Same as EYFS & Year 1, plus: Rotation Right angle Clockwise Anti-clockwise Order Arrange Sequence				
--	--	---	--	--	--	--

Statistics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-Organises and records pictorial data on simple charts or tables where one symbol represents one unit e.g. pictogram, block graph.	-Children start to organise and group objects using simple properties to match objects. -Can answer simple questions about groupings. E.g How many reds are there?	-Interpret and construct simple pictograms, tally charts, block diagrams and simple tables -Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity -Ask and answer questions about totalling and comparing categorical data.	-To interpret data using bar charts, pictograms and tables which includes one step and two step questions. -To present data in a variety of ways including a range of different tables, bar charts and pictograms.	-Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. -Identify acute and obtuse angles and compare and order angles up to two right angles by size. -Identify lines of symmetry in 2d shapes presented in different orientations and to complete a simple symmetric figure with respect to a specific line of symmetry.	-To solve comparison, sum and difference problems using information presented in a line graph and complete, read and interpret information in tables, including timetables. -Can read different graphs with different scales. -To read pie charts with different segments that are divisible by 10. -To construct different bar charts according to the data collected.	-To interpret and construct pie charts, line charts, bar charts and various charts (Venn and Carroll) and use them to solve problems. -To read different charts with different scales and can work out and label the scales of different charts. -Can construct own line graphs using information that I have collected and

				-Describe positions on a 2d grid as coordinates in the first quadrant -Describe movements between positions as translations of a given unit to the left/right and up/down		make choices about the scales that I use. -I know the term 'mean' is the average to find the averages of a given set of numbers. (mean, median, mode, range)
--	--	--	--	--	--	---

Subject Specific Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		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	Same as 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

		Total Compare Data				
--	--	--------------------------	--	--	--	--

CPD for teachers

Proposed Staff Mtgs:
Teaching Maths Through Concepts KS1 & KS2
Engaging & Exciting Maths Through Story Books
Meaningful Marking - Marking to progress the children's learning