Maths curriculum

Intent

The national curriculum for mathematics intends to ensure that all pupils:

1. Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

2. Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

3. Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

At St John the Baptist we:

- Ensure our children have access to a high quality maths curriculum that is both challenging and enjoyable.
- Provide our children with a variety of mathematical opportunities, which will enable them to make the connections in learning needed to enjoy greater depth in learning.
- Ensure children are confident mathematicians who are not afraid to take risks
- Fully develop independent learners with inquisitive minds who have secure mathematical foundations and an interest in self-improvement.



Our school is split into milestones for age progression and consolidation across their learning journey in primary school. This use of progression allows children to experience and revisit content twice within each milestone; this in turn supports number fluency and develops children's understanding and mastery of maths.

Following the White Rose Maths progression documents, we ensure that children cover their age related content as well as having the opportunity to revisit previous skills and experience new skills within each milestone. Where teachers see it necessary, children may be split into smaller groups(year groups) to deliver a maths lesson and this could be for a number of reasons; ability of the class means that the content is not accessible for some; children need time to further consolidate and practise new skills; children may have mastered the skills and need to be progressed on to the next skill. This pedagogy and teacher judgement will be evident in books as well as planning. Although, we endeavour to teach all children together to ensure they receive a quality first inclusive maths lesson everyday.

The overviews and breakdown of small steps within our curriculum are guidance for teachers sequential planning and these are supported by weekly arithmetic lessons. The focus of the arithmetic lessons are to improve rapid recall, mental maths and inform our mental oral starters for the week. Where there are specific number focuses in year groups, mental oral starters will be planned to support this. For example; milestone 2 children are expected to sit the Multiplication check Baptist School so times tables will be taught regularly in these lessons.



Children's standards and achievements in maths are assessed in line with the School's Assessment Policy. Assessment is ongoing and informs planning. At the end of each term, teachers carry out in-depth assessment of children (using PUMA), and highlight the age-related outcomes achieved.

Target Tracker is used to analyse data, gaps in children's knowledge and gain an overview of specific groups of children across the school. Progress is closely monitored by the Subject Leader and Senior Leadership Team, and includes: lesson observations, pupil progress meetings, pupil voice interviews and learning walks.

Collaborative Assessment for Learning (AfL) practices within class and group sessions are used, including the sharing of and reference being made to Learning Questions, and self/peer assessments of understanding, outcomes and progress. The findings of this monitoring will be used to inform next steps for the children and contribute to the School Improvement Plan. The percentage of pupils working at EXP and GDS within each year group will be at least in line with national average.

Our Pebmarsh Powers (Respect, Try new Things, Imagine, Don't Give Up, Work hard and Concentrate) are key to driving learning forwards, with pupils being encouraged to take a proactive approach regarding personal responsibility for their education.

The School is committed to involving parents/carers in their children's learning as much as possible, and to inform them regularly of their child's progress in maths and what their 'next steps' are. The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills. Children can underperform in mathematics because they think they can't do it or are not naturally good at it. An ethos of 'Challenge for All' and quick identification of gaps in learning addresses these preconceptions by ensuring that all children experience challenge and success in mathematics by developing a growth mindset. Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child. These factors ensure that we are able to maintain high standards.

Pure mathematics is, in its way, the poetry of logical ideas.' (Albert Einstein)

Class/ Year	Autumn Term		Spring Term		Summer Term		
Mathe matics	Number recognition Counting/quantity Exploring shapes and arrangements Time/Routine	Repeating patterns 2-D shapes and their properties Size Positional language More or Less – comparing quantities Represent number using fingers or marks Counting objects 1 more/ 1 less than a given number	Estimating and recording Ordering by length and height. Weighing and capacity Number recognition and ordering to 10 Matching number to quantity Counting 6 from a larger group Counting all Count objects to 10 Doubling	Counting backwards - less Counting and recognition beyond 10 Addition and counting on. Take away Record using marks you can explain 3-D shapes Sharing Time	Addition Subtraction Doubling Halving Time Money Compare length and Height Recognise and order numbers to 20 2D and 3D shapes and their properties	Sequencing numbers to 20 1 more and less to 20 Add/subtract Solving Number problems Number patterns Using mathematical language to describe and compare shape, size, money, time.	
Children who are working above the ARB during each term, will work towards the next band	Repeating patterns 2-D shapes and their properties Size Positional language More or Less – comparing quantities Represent number using fingers or marks Counting objects 1 more/ 1 less than a given number	Estimating and recording Ordering by length and height. Weighing and capacity Number recognition and ordering to 10 Matching number to quantity Counting 6 from a larger group Counting all Count objects to 10 Doubling	Counting backwards - less Counting and recognition beyond 10 Addition and counting on. Take away Record using marks you can explain 3-D shapes Sharing Time	Addition Subtraction Doubling Halving Time Money Compare length and Height Recognise and order numbers to 20 2D and 3D shapes and their properties	Sequencing numbers to 20 1 more and less to 20 Add/subtract Solving Number problems Number patterns Using mathematical language to describe and compare shape, size, money, time.	⇔t. John Baptist Schoor	

Excite-Embrace-Encourage-Excel-Let Your Light Shine

Pebmarsh

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Class/ Year	Autumn Term			Spring Term			Summer Term						
Milestone 1	Place value(1) within 20- year1 within 200- Year 2	Addition and subtraction within 20, including money- Year 1 Within 200, including money- Year 2	Place value & Multiplication Within 50-year 1	Division	Place value within 100- Year 1 Statistics-Year 2	Measure and Length	Geometry-Shape	Fractions	Geometry- position and direction	Time	Problem solving & efficient method	Measure ment Weight and volume- year 1 Mass, capacity & temperatu re	Consolidation and investigation



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Class/ Year	Autumn Term			Spring Term				Summer Term			
Milestone 2	Place value	Addition and subtraction	Multiplic Division	ation &	Measurement- Length, area and perimeter	Fractions	Mass & Capacity- Year 3	Decimals- including money	Time	Statistics	Geometry- properties of shape-Year 3 Geometry- position and direction



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Class/ Year	Autum	n Term		Spring Term				Summer Term			
Milestone 3	Place value	Four operations	Fractions	Fractions	Decimals & percentages	Decimals- Year 5	nt-converting units	nt-perimeter, area and volume	roperties of shape	osition and direction	SATS/consolidation
						Algebra- Year 6	Measuremer	Measuremer Statistic	Geometry-pr	Geometry-po	



Times table Progression-2022/2023

Year	Times table fact
1	Count in multiples of 2,5 and 10 Recall and use all doubles to 10 and corresponding halves
2	Recall and use multiplication and division facts for the 2,5 and 10 times table Recognise odd and even numbers
3	Recall and use multiplication division facts for the 3, 4 and 8 times tables.
4	Recall and use multiplication and division facts for times tables up to 12 x 12
5	Revision of all times tables and division facts for times tables up
6	to 12 x 12



Key Instant Recall Fact (Kirfs)Progression

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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6
Autumn 1	Name numbers in order to 10 and compare 2 numbers by saying which is more or less	Recite the number names in order to 50 and beyond	Recall number names in order to 100. Number bonds to 10 then 20	Number bonds for all numbers up to 20. Count in 50s and 100s	l know number bonds to 100 Count in 25s and 1000s	l know multiplication and division facts for all the times tables facts up to 12x12	I know the multiplication and division facts for all the times tables up to 12x12
Autumn 2	Recognise quantities up to 5	Add 0 or 1 to a number	Doubles and halves to 20 Near doubles to 10 Bridging and Compensation for addition to 10+10	Count in 3s know Multiplication and division facts for 3x table (up to 12x12)	Count in 6's I know the multiplication and division facts for the 6x tables	l can find factor pairs of a number	l can identify common factors of a pair of numbers
Spring 1	Say 1 more than a given number up to 10	Know number bonds to 10 Know odd and even numbers to 20	Count in 2s Multiplication facts for the 2x tables (up 12x)	Count in 4s Know multiplication and division facts for 4x table	Count in 9s and 11s. Know the multiplication and division facts for the 9x and 11x table	I can find prime numbers up to 20. I can recall square numbers up to 144 and their square roots	I can identify prime numbers up to 50 and know the roots of square numbers up to 15x15
Spring 2	Partition numbers to 5 into 2 groups	Count in 2s to 20 10s to 100 5s to 50	Count in 5s and 10s Multiplication facts for the 5x, 10x table (up to 12x)	Count in 8s Know multiplication and division facts for 8x table	Count in 7s and 12s. Know the multiplication and division facts for the for the 7x and 12x table	Know decimal and percentage equivalence	Know decimal and percentage equivalence
Summer 1	Recall number bonds 0-10 including partitioning facts	Add 10 to a number	Count in 3s to 36	Count up and down in tenths Recognise the decimal equivalents of tenths	l know multiplication and division facts for all the times tables up to 12x12	Know decimal number bonds to 1 and 10	Revisit Previous KIRFS
Summer 2	Recall number names in order to 20 Recal double facts up to 5+5	l know doubles and halves of numbers to 10 l know near doubles to 5	Begin to know the 3x table	Multiply and divide 1 digit numbers by 10	l can multiply 1 and 2 digit numbers by 10 and 100	Revisit Previous KIRFS	Revisit Previous KIRFS

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Place Value Progression

	Milestone 1		Milest	tone 2	Milestone 3		
Place Value: Counting	 count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Y1/2- Autumn 1 Y1/2- Autumn 3 Y1/2- Spring 2 	 count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Y1/2- Autumn 3 	 count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Y2/3- Autumn 1 Y2/3- Autumn 3 Y2/3- Summer 2 Y3/4- Autumn 1 	 count in multiples of 6, 7, 9, 25 and 1000 count backwards through zero to include negative numbers Y3/4- Autumn 1 Y3/4- Autumn 3 Y4/5- Autumn 1 	 count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 count forwards and backwards with positive and negative whole numbers, including through zero 		
	Y1/2- Summer 3	Y2/3- Autumn 3	Y3/4- Autumn 3	Y4/5- Autumn 3	Y5/6- Autumn 1		
Place Value: Represent	 identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words. 	 read and write numbers to at least 100 in numerals and in words identify, represent and estimate numbers using different representations, including the number line 	 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words 	 identify, represent and estimate numbers using different representations read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value 	 read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	 read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit 	
	Y1/2- Autumn 1 Y1/2- Autumn 3 Y1/2- Spring 2 Y1/2- Summer 3	Y1/2- Autumn 3 Y2/3- Autumn 3	Y2/3- Autumn 1 Y3/4- Autumn 1	Y3/4- Autumn 1 Y4/5- Autumn 1	Y4/5- Autumn 1 Y5/6- Autumn 1	Y5/6-Autumn 1	



Place value Progression

	Miles	tone 1	Miles	tone 2	Miles	tone 3
Place Value : Use PV and Compare	 given a number, identify one more and one less Y1/2- Autumn 1 Y1/2- Autumn 3 Y1/2- Spring 2 Y1/2- Summer 3 	 recognise the place value of each digit in a two-digit number (tens, ones) compare and order numbers from 0 up to 100; use <, > and = signs Y1/2- Autumn 3 Y2/3- Autumn 3 	 recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 Y2/3- Autumn 1 Y3/4- Autumn 1 	 find 1000 more or less than a given number recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 Y3/4- Autumn 1 Y4/5- Autumn 1 	 (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit Y4/5- Autumn 1 Y5/6- Autumn 1 	 (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit Y5/6- Autumn 1
Place Value: Problems& Rounding		 use place value and number facts to solve problems. Y1/2- Autumn 3 Y2/3- Autumn 3 	 solve number problems and practical problems involving these ideas Y2/3- Autumn 1 Y3/4- Autumn 1 	 round any number to the nearest 10, 100 or 1000 solve number and practical problems that involve all of the above and with increasingly large positive numbers Y3/4- Autumn 1 Y4/5- Autumn 1 	 interpret negative numbers in context round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above Y4/5- Autumn 1 Y5/6- Autumn 1 	 round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above Y5/6- Autumn 1



Addition and subtraction Progression

	Miles	tone 1	Miles	tone 2	Milestone 3		
Addition & Subtraction: Recall, Represent, Use	 read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs represent and use number bonds and related subtraction facts within 20 	 recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 	 estimate the answer to a calculation and use inverse operations to check answers 	 estimate and use inverse operations to check answers to a calculation 	 use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 		
	Y1/2- Autumn 2 Y1/2- Summer 5	Y1/2- Autumn 2 Y2/3- Autumn 2	Y2/3- Autumn 2 Y2/3- Summer 2 Y3/4- Autumn 2	Y3/4- Autumn 2 Y4/5- Autumn 2	Y4/5- Autumn 2 Y5/6- Autumn 2 Y5/6- Summer 3		



Addition and subtraction Progression

	Miles	stone 1	Milest	tone 2	Milest	one 3
ddition & Subtraction: Calculations	 add and subtract one- digit and two-digit numbers to 20, including zero 	 add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers 	 add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 	 add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate 	 add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) add and subtract numbers mentally with increasingly large numbers 	 perform mental calculations, including with mixed operations and large numbers use their knowledge of the order of operations to carry out calculations involving the four operations
4	Y1/2- Autumn 2 Y1/2- Summer 5	Y1/2- Autumn 2 Y2/3- Autumn 2	Y2/3- Autumn 2 Y2/3- Summer 2 Y3/4- Autumn 2	Y3/4- Autumn 2 Y4/5- Autumn 2	Y4/5- Autumn 2 Y5/6- Autumn 2 Y5/6- Summer 3	Y5/6- Autumn 2



Addition and subtraction Progression

	Miles	stone 1	Miles	tone 2	Milest	tone 3
Addition & Subtraction: Solve Problems	 solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9 	 solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods 	 solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction 	 solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 	 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 	 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	Y1/2- Autumn 2 Y1/2- Summer 5	Y1/2- Autumn 2 Y2/3- Autumn 2	Y2/3- Autumn 2 Y2/3- Summer 2 Y3/4- Autumn 2	Y3/4- Autumn 2 Y4/5- Autumn 2	Y4/5- Autumn 2 Y5/6- Autumn 2 Y5/6- Summer 3	Y5/6- Autumn 2



Multiplication and division Progression

	Milestone 1	Milestone 2	Milestone 3
Multiplication & Division: Recall, Represent, Use	 recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 	 recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables recall multiplication and division facts for multiplication tables up to 12 × 12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers recognise and use factor pairs and commutativity in mental calculations 	 identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the 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 recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) identify common factors, common factors, common multiples and prime numbers identify common factors, common multiples and prime numbers use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
	Y1/2- Autumn 3 Y1/2- Spring 1 Y2/3- Autumn 3 Y2/3- Spring 1	Y2/3- Autumn 3 Y3/4- Autumn 3 Y2/3- Autumn 3 Y3/4- Spring 1 Y2/3- Summer 2 Y4/5- Autumn 3 Y3/4- Autumn 3 Y4/5- Spring 1	Y4/5- Autumn 3 Y5/6- Autumn 2 Y5/6- Summer 3 Y5/6- Autumn 2



Multiplication and Division Progression

	Milestone 1	Milestone 2	Milestone 3	
Multiplication & Division: Calculations	 calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (s), division (-) and equals (=) signs 	 write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods Y2/3- Autumn 3 Y2/3- Spring 1 Y3/4- Autumn 3 X3/4 Spring 1 	 multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Y4/5- Autumn 3 Y4/5- Spring 1 multiply nulti-digit numbers up to 4 digits by a two-digit whole numbers up to 4 digits by a two-digit number using the formal written method of short divise numbers and those involving decimals by 10, 100 and 1000 Y4/5- Spring 1 Y4/5- Spring 1 Y4/5 - Spring 1 	
	Y2/3- Autumn 3 Y2/3- Spring 1	Y3/4- Autumn 3 Y4/5- Autumn 3 Y3/4- Spring 1 Y4/5- Spring 1	Y5/6- Autumn 2 Y5/6- Spring 2 Y5/6- Autumn 2	



Multiplication and Division Progression

	Milesto	one 1	Milesto	one 2	Milesto	one 3
Multiplication & Division: Solve Problems	 solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher Y1/2- Autumn 3 Y1/2- Spring 1 Y1/2- Summer 5 	 solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts Y1/2- Autumn 3 Y1/2- Spring 1 Y2/3- Autumn 3 Y2/3- Spring 1 	 solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects Y2/3- Spring 1 Y2/3- Summer 2 Y3/4- Spring 1 	 solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects Y3/4- Spring 1 Y4/5- Spring 1 	 solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates Y4/5- Autumn 3 Y4/5- Spring 1 Y5/6- Autumn 2 	 solve problems involving addition, subtraction, multiplication and division Y5/6- Autumn 2
Multiplication & Division: Mixed Occretions					 solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Y4/5- Autumn 3 Y4/5- Spring 1 	 use their knowledge of the order of operations to carry out calculations involving the four operations

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	Milestone 1		Milest	one 2	Milestone 3	
Fractions: Recognise and Write	 recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal parts of an object, shape or quantity 	 recognise, find, name and write fractions ¹/₃, ¹/₄, ²/₄ and ³/₄ of a length, shape, set of objects or quantity Y1/2- Spring 5 Y2/3- Spring 5 	 count 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 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions and non-unit fractions and non-unit fractions with small denominators Y2/3- Spring 5 Y3/4- Spring 3 	 count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Y3/4- Spring 4 Y4/5- Spring 3 	• identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} =$ $1\frac{1}{5}$] Y4/5- Spring 2 Y5/6- Autumn 3 Y5/6- Spring 1 Y5/6- Summer 4	
Fractions: Compare		 Recognise the equivalence of ²/₄ and ¹/₂ Y1/2- Spring 5 Y2/3- Spring 5 	 recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators Y2/3- Spring 5 Y3/4- Spring 3 	 recognise and show, using diagrams, families of common equivalent fractions Y3/4- Spring 3 Y4/5- Spring 2 	 compare and order fractions whose denominators are all multiples of the same number Y4/5- Spring 2 Y5/6- Autumn 3 Y5/6- Spring 1 Y5/6- Summer 4 	 use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 Y5/6- Autumn 3



	Milestone 1	Milestone 2	Milestone 3
Fractions: Calculations	• write simple fractions for example, $\frac{1}{2}$ of 6 = 3 Y1/2- Spring 5 Y2/3- Spring 5	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] Y2/3- Spring 5 Y2/3- Summer 4 Y3/4- Summer 3 Y3/4- Spr	 add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Y4/5- Spring 2 Y5/6- Autumn 3 Y5/6- Spring 1 Y5/6- Summer 4 add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¹/₄ × ¹/₂ = ¹/₈] divide proper fractions by whole numbers [for example, ¹/₃ ÷ 2 = ¹/₆]
Fractions: Solve Problems		 solve problems that involve all of the above solve problems that involving ind harder fraction quantities, ir non-unit fra where the all whole numbers Y2/3- Spring 5 Y2/3- Summer 4 Y3/4- Summer 3 Y3/4- Spring 5 Y4/5- Spring 5 	ms reasingly ons to antities, s to divide including ctions hower is a her ing 3 ing 2

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	Milestone 1	Milestone 2	Milestone 3
Decimals: gnise and Write		 recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to ¹/₄, ¹/₂, ³/₄ 	 read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents identify the value of each digit in numbers given to three decimal places
Reco		Y3/4- Spring 4 Y3/4- Summer 1 Y4/5- Spring 3 Y4/5- Summer 1	Y4/5- Spring 3 Y5/6- Spring 2 Y5/6- Summer 4 Y5/6- Spring 2
Decimals: Compare		 round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places 	 round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order and compare numbers with up to three decimal places
		Y3/4- Summer 1 Y4/5- Summer 1	Y4/5- Spring 3 Y5/6- Spring 2 Y5/6- Summer 4



	Milestone 1	Milestone 2	Milestor	1e 3	
Decimals: alculations & Problems		 find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths 	 solve problems involving number up to three decimal places 	 multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places multiply one-digit numbers with up to two decimal places by whole numbers use written division methods in cases where the answer has up to two decimal places solve problems which require answers to be rounded to specified degrees of accuracy 	
0		Y3/4- Spring 4 Y4/5- Spring 3	Y4/5- Spring 3 Y4/5- Summer 1 Y5/6- Spring 2 Y5/6- Spring 3 Y5/6- Summer 4	Y5/6- Spring 2	a a



	Milestone 1	Milestone 2	Milestone 3	
ns, Decimals and Percentages		 solve simple measure and money problems involving fractions and decimals to two decimal places 	 recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of ¹/₂, ¹/₄, ¹/₅, ²/₅, ⁴/₅ and those fractions with a denominator of a multiple of 10 or 25 	 associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, ³/₈] recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
Fractio		Y3/4- Spring 3 Y3/4- Spring 4 Y3/4- Summer 1 Y3/4- Spring 2 Y3/4- Spring 3 Y3/4- Summer 1	Y4/5- Spring 3 Y5/6- Spring 2 Y5/6- Summer 4	Y5/6- Spring 2

Ratio and proportion Progression

	Milestone 1	Milestone 2	Milestone 3
Ratio and Proportion			 solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison solve problems involving similar shapes where the scale factor is known or can be found solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. Y5/6- Spring 1 Y5/6- Spring 2



Algebra Progression

	Milestone 1		Milestone 2		Milestone 3	
Algebra	 solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9 	 recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 	 solve problems, including missing number problems 			 use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of two variables.



	Milestone 1		Milestone 2		Milestone 3	
Measurement: Using Measures	 compare, describe and solve practical problems for: 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: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) 	 choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels compare and order lengths, mass, volume/capacity and record the results using >, < and = 	 measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Y2/3- Spring 3 	 Convert between different units of measure [for example, kilometre to metre; hour to minute] estimate, compare and calculate different measures 	 convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling 	 solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places convert between miles and kilometres
	Y1/2- Spring 3 Y1/2- Summer 2 Y1/2- Summer 4	Y1/2- Summer 4 Y2/3- Spring 3 Y2/3- Summer 3	Y2/3- Summer 3 Y3/4- Spring 2 Y3/4- Spring 4	Y3/4- Summer 2 Y4/5- Autumn 4 Y4/5- Summer 2	Y4/5- Summer 6 Y5/6- Spring 4 Y5/6- Summer 5	Y5/6- Spring 4



	Mile	estone 1	Mile	stone 2	Miles	tone 3
Measurement: Money	 recognise and know the value of different denominations of coins and notes 	 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 	 add and subtract amounts of money to give change, using both £ and p in practical contexts 	 estimate, compare and calculate different measures, including money in pounds and pence 	 use all four operations to solve problems involving measure [for example, money] 	
	Y1/2- Autumn 2	Y1/2- Autumn 2 Y2/3- Autumn 2	Y2/3- Autumn 2 Y3/4- Summer 1	Y3/4- Summer 1 Y4/5- Summer 1	Y4/5- Summer 1 Y5/6- Spring 3	



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	Milestone 1	Milestone 2		Milestone 3	
Measurement: Perimeter, Area, Volume		 measure the perimeter of simple 2-D shapes Y2/3- Spring 4 Y3/4- Spring 2 	 measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares Y3/4- Spring 2 Y3/4- Autumn 4 	 measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] Y4/5- Autumn 4 Y4/5-Summer 6 Y5/6- Spring 5 	 recognise that shapes with the same areas can have different perimeters and vice versa recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]



Geometry Progression

	Milestone 1		Milestone 2		Milestone 3	
Geometry: 2-D Shapes	 recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] 	 identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D shapes and everyday objects 	• draw 2-D shapes	 compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify lines of symmetry in 2-D shapes presented in different orientations 	 distinguish between regular and irregular polygons based on reasoning about equal sides and angles. use the properties of rectangles to deduce related facts and find missing lengths and angles 	 draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	Y1/2- Spring 4	Y1/2- Spring 4 Y2/3- Spring 4	Y2/3- Spring 4 Y3/4- Summer 4	Y3/4- Summer 4 Y4/5- Summer 4	Y4/5- Summer 4 Y5/6- Summer 1	Y5/6- Summer 1
Geometry: 5-D Shapes	 recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] 	 recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. compare and sort common 3-D shapes and everyday objects 	 make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them 		 identify 3-D shapes, including cubes and other cuboids, from 2-D representations 	 recognise, describe and build simple 3-D shapes, including making nets
	Y1/2- Spring 4	Y1/2- Spring 4 Y2/3- Spring 4	Y2/3- Spring 4 Y3/4- Summer 4		Y4/5- Summer 4 Y5/6- Summer 1	Y5/6- Summer 1

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Geometry Progression

	Milestone 1		Milesto	one 2	Mileston	e 3
Geometry: Angles & Lines			 recognise angles as a property of shape or a description of a turn identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of perpendicular and parallel lines 	 identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry 	 know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and ¹/₂ a turn (total 180°) other multiples of 90° 	 find unknown angles in any triangles, quadrilaterals, and regular polygons recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
			Y2/3- Spring 4 Y3/4- Summer 4	Y3/4- Summer 4 Y4/5- Summer 4	Y4/5- Summer 4 Y5/6- Summer 1	Y5/6- Summer 1



Geometry Progression

	Milestone 1		Milestone 2		Milestone 3	
പ്പോടുന്നു. Position & Direction	 describe position, direction and movement, including whole, half, quarter and three-quarter turns 	 order and arrange combinations of mathematical objects in patterns and sequences 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 anti- clockwise) 		 describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon 	 identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed 	 describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes
	Y1/2- Summer 1	Y1/2- Summer 1 Y2/3- Spring 4		Y3/4- Summer 4 Y4/5- Summer 5	Y4/5- Summer 5 Y5/6- Summer 2	Y5/6- Summer 2



Statistics Progression

	Milestone 1		Miles	tone 2	Milestone 3	
Statistics: Present and Interpret		 interpret and construct simple pictograms, tally charts, block diagrams and simple tables Y1/2- Spring 2 Y2/3- Spring 2 	 interpret and present data using bar charts, pictograms and tables Y2/3- Spring 2 Y3/4- Summer 3 	 interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Y3/4- Summer 3 Y4/5- Summer 3 	 complete, read and interpret information in tables, including timetables Y4/5- Summer 3 Y5/6- Spring 6 	 interpret and construct pie charts and line graphs and use these to solve problems Y5/6- Spring 6
Statistics: Solve Problems		 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 Y1/2- Spring 2 Y2/3- Spring 2 	 solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables Y2/3- Spring 2 Y3/4- Summer 3 	 solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs Y3/4- Summer 3 Y4/5- Summer 3 	 solve comparison, sum and difference problems using information presented in a line graph Y4/5- Summer 3 Y5/6- Spring 6 	 calculate and interpret the mean as an average Y5/6- Spring 6



Vocabulary Progression

	Maths vocabulary for Milestone 1	
Number and place value	Ten more/less, digit, numeral, figure(s), compare, (in) order/a different order, size, value, between, halfway between, above, below, tens, onesNumbers to one hundred, hundreds, partition, recombine more/less	2,
Addition and subtraction	Number bonds, number line, add, more, plus, make, sum, total, altogether, inverse, double, near double, equals, is the same as (including equals sign), difference between, subtract, take away, minus How many more to make?, How many more is than?, How much more is?, How many fewer is than?, How much less is?	
Multiplication and division	Once, twice, three, five times, multiple of times Multiply, multiply by, repeated addition, array, row, column, double, halve, share, share equally, group in pairs, threes, etc., equal groups of, divide, divided by, left over	
Measure	Time, days of the week, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, Before, after, next, last, now, soon, early, late, quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest Takes longer, takes less time, hour, o'clock, half past, clock, watch, hands, how long ago?, How long will it be to ?, How long will it take to ?, How often?, always, never, often, sometimes, usually, or first, second, third, etc., estimate, close to, about the same as, just over, just under, too many, too few, not enough, enough, Quarter past/to, Length, width, height, depth, long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest, Low, wide, narrow, deep, shallow, thick, thin, far, near, close, metre, ruler, metre stick kilometers, grams, kilograms, millimeters, liters, temperature, degrees How much?, How many?, money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as, total	nce, twice, s, metres,
Geometry (position and direction)	Before, after, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, towards, away from, movement, slide, roll, turn, whole turn, half turn, stretch, bend, Rotation, clockwise, anticlockwise, straight line, ninety degree turn, right angle	from,
Geometry (properties of shape)	Corner (point, pointed), face, side, edge, make, build, draw, Size, bigger, larger, smaller, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern	
Data and statistics	Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, label, title, most popular, most common, least popular, least common	
Fractions	Whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters, Three quarters, one third, a third, equivalence, equivalent	, John Baptist Schoo
Problem solving	Change, change over, split, separate, carry on, continue, repeat, what comes next?, find, choose, collect, use, make, build Tell me, describe, pick out, talk about, explain, show me, read, write, record, trace, copy, complete, finish, end, fill in, shade, colour, tick, cross, draw, draw a line between, join (up), ring, arrow Cost, count, work out, answer, check same number(s)/different number(s)/missing number(s) Number facts, number line, number track, number square, number cards, abacus, counters, cubes, blocks, rods, die, dice, dominoes, pegs, peg board Same way, different way, best way, another way, in order, in a different order, not all, every, each. Predict, describe the nattern, describe the rule, find, find, all, find, different, investigate	
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Vocabulary Progression

	Maths vocabulary for Milestone 2
Number and place value	Numbers to one thousand, tenths, hundredths, decimal (places), round (to nearest), thousand more/less than, negative integers, count through zero, Roman numerals I to C
Addition and subtraction	Column addition and subtraction
Multiplication and division	Product, multiples of four, eight, fifty and one hundred, scale up, multiplication facts (up to 12x12), division facts, inverse, derive
Measure	Leap year, twelve-hour/twenty-four-hour clock, Roman numerals I to XIII, convert
Geometry (position and direction)	Greater/less than ninety degrees, orientation (same orientation, different orientation) co-ordinate, translate, quadrant, X-axis, Y-axis, perimeter, area
Geometry (properties of shape)	Horizontal, perpendicular and parallel lines, quadrilaterals, triangles, right, acute and obtuse angles
Fractions	Numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths, equivalent decimals and fractions
Data/statistics	Chart, bar chart, frequency table, Carroll diagram, Venn diagram, axis, axe, continuous data, line graph



Vocabulary Progression

	Maths vocabulary for Milestone 3
Number and place value	Powers of 10, numbers to ten million
Addition and subtraction	Efficient written method, order of operations
Multiplication and division	Factor pairs, composite numbers, prime number, prime factors, square number, cubed number, formal written method, common factors and common multiples
Measure	Volume, imperial units, metric units
Geometry (position and direction)	Reflex angle, dimensions, four quadrants (for co-ordinates)
Geometry (properties of shape)	Regular and irregular polygons, vertically opposite (angles), circumference, radius, diameter
Fractions and decimals	Proper fractions, improper fractions, mixed numbers, percentage, half, quarter, fifth, two fifths, four fifths, ratio, proportion, Degree of accuracy, simplify
Algebra	Linear number sequence, substitute, variables, symbol, known values
Statistics and data	Mean, pie chart, construct

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