## 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 Bappisisctoon $^{\text {. }}$ 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 agerelated 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.

Maths curriculum overview- 2022-2023 Pure mathematics is, in its way, the poetry of logical ideas.' (Albert Einstein)

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

Maths curriculum overview- 2022-2023

| Class/ <br> Year | Autumn Term |  |  | Spring Term |  |  |  |  | Summer Term |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Place <br> value(1) <br> within 20- <br> year1 <br> within 200- <br> Year 2 | Addition and subtraction within 20 , including moneyYear 1 Within 200, including moneyYear 2 | Place value \& Multiplication Within 50-year 1 | $\xrightarrow{\text { ¢ }}$ | Place value within 100Year 1 <br> Statistics-Year 2 |  |  |  | Geometryposition and direction | E | Problem solving \& efficient method | Measure <br> ment <br> Weight <br> and <br> volume- <br> year 1 <br> Mass, capacity \& temperatu re |  |

Maths curriculum overview- 2022-2023


## Maths curriculum overview- 2022-2023

| Class/ | Autumn Term |  |  | Spring Term |  |  |  |  |  | Summer Term |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Place value | Four operations | Fractions | Fractions | Decimals \& percentages | DecimalsYear 5 <br> Algebra- <br> Year 6 |  |  | $\begin{aligned} & \stackrel{U}{\#} \\ & \stackrel{N}{\#} \\ & \stackrel{N}{\#} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \frac{0}{0} \\ & \frac{1}{n} \\ & 4 \\ & 0 \\ & 0 \\ & \vdots \\ & 0 \\ & 0 \\ & 0 \\ & \frac{0}{1} \\ & \frac{1}{0} \\ & \vdots \\ & 0 \\ & 0 \end{aligned}$ |  | SATS/consolidation |

## Times table Progression-2022/2023

| Year | Times table fact |
| :--- | :--- |
| $\mathbf{1}$ | Count in multiples of 2,5 and 10 <br> Recall and use all doubles to 10 and corresponding halves |
| $\mathbf{2}$ | Recall and use multiplication and division facts for the 2,5 and 10 <br> times table <br> Recognise odd and even numbers |
| $\mathbf{3}$ | Recall and use multiplication division facts for the 3,4 and 8 <br> times tables. |
| $\mathbf{4}$ | Recall and use multiplication and division facts for times tables <br> up to $12 \times 12$ |
| 5 | Revision of all times tables and division facts for times tables up <br> to $12 \times 12$ |
| 6 |  |

## Key Instant Recall Fact (Kirfs)Progression

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

|  | 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 50 s and 100 s | 1 know number bonds to 100 Count in 25 s and 1000s | 1 know multiplication and division facts for all the times tables facts up to $12 \times 12$ | 1 know the multiplication and division facts for all the times tables up to $12 \times 12$ |
| Autumn $2$ | Recognise quantities up to 5 | Add 0 or 1 to a number | Doubles and halves to 20 Near doubles to 10 <br> Bridging and Compensation for addition to $10+10$ | Count in 3 s know Multiplication and division facts for $3 x$ table (up to $12 \times 12$ ) | Count in 6's 1 know the multiplication and division facts for the $6 x$ tables | I can find factor pairs of a number | I 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 2 s Multiplication facts for the $2 x$ tables (up 12x) | Count in 4s Know multiplication and division facts for $4 x$ table | Count in 9 s and 11s. Know the multiplication and division facts for the $9 x$ and $11 x$ table | I can find prime numbers up to 20.1 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 $15 \times 15$ |
| Spring 2 | Partition numbers to 5 into 2 groups | Count in $2 s$ to 2010 s to 100 5 s to 50 | Count in 5 s and 10s <br> Multiplication facts for the $5 x$, $10 x$ table (up to 12 x ) | Count in 8 s Know multiplication and division facts for $8 x$ table | Count in 7 s and 12s. <br> Know the multiplication and division facts for the for the $7 x$ and $12 x$ table | Know decimal and percentage equivalence | Know decimal and percentage equivalence |
| $\begin{aligned} & \text { Summer } \\ & 1 \end{aligned}$ | Recall number bonds 0-10 including partitioning facts | Add 10 to a number | Count in 3 s to 36 | Count up and down in tenths Recognise the decimal equivalents of tenths | 1 know multiplication and division facts for all the times tables up to $12 \times 12$ | Know decimal number bonds to 1 and 10 | Revisit Previous KIRFS |
| $\begin{aligned} & \text { Summer } \\ & 2 \end{aligned}$ | Recall number names in order to 20 Recal double facts up to $5+5$ | 1 know doubles and halves of numbers to 10 1 know near doubles to 5 | Begin to know the $3 x$ table | Multiply and divide 1 digit numbers by 10 | I can multiply 1 and 2 digit numbers by 10 and 100 | Revisit Previous KIRFS | Revisit Previous KIRFS |

## Milestone 1

Milestone 2

## Milestone 3

|  | - count to and across 100, forwards and backwards, beginning with 0 or 1 , or from any given number <br> - Count numbers to 100 in numerals; count in multiples of twos, fives and tens <br> Y1/2-Autumn 1 <br> Y1/2-Autumn 3 <br> Y1/2- Spring 2 <br> Y1/2-Summer 3 | - count in steps of 2, 3, and 5 from 0 , and in tens from any number, forward and backward <br> Y1/2- Autumn 3 <br> Y2/3- Autumn 3 | - count from 0 in multiples of $4,8,50$ and 100 ; find 10 or 100 more or less than a given number <br> Y2/3- Autumn 1 <br> Y2/3-Autumn 3 <br> Y2/3-Summer 2 <br> Y3/4-Autumn 1 <br> Y3/4-Autumn 3 | - count in multiples of $6,7,9,25$ and 1000 <br> - count backwards through zero to include negative numbers <br> Y3/4-Autumn 1 <br> Y3/4-Autumn 3 <br> Y4/5-Autumn 1 <br> Y4/5-Autumn 3 | - count forwards or backwards in steps of powers of 10 for any given number up to 1 000000 <br> - count forwards and backwards with positive and negative whole numbers, including through zero <br> Y4/5- Autumn 1 Y5/6-Autumn 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - identify and represent numbers using objects and pictorial representations <br> - read and write numbers to 100 in numerals <br> - read and write numbers from 1 to 20 in numerals and words. <br> Y1/2-Autumn 1 <br> Y1/2-Autumn 3 <br> Y1/2- Spring 2 <br> Y1/2-Summer 3 | - read and write numbers to at least 100 in numerals and in words <br> - identify, represent and estimate numbers using different representations, including the number line <br> Y1/2-Autumn 3 Y2/3-Autumn 3 | - identify, represent and estimate numbers using different representations <br> - read and write numbers up to 1000 in numerals and in words | - identify, represent and estimate numbers using different representations <br> - 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 <br> Y3/4- Autumn 1 <br> Y4/5-Autumn 1 | - read, write, (order and compare) numbers to at least 1000000 and determine the value of each digit <br> - read Roman numerals to 1000 $(M)$ and recognise years written in Roman numerals. <br> Y4/5-Autumn 1 Y5/6- Autumn 1 | - read, write, (order and compare) numbers up to 10000000 and determine the value of each digit <br> Y5/6-Autumn 1 |

## Place value Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - given a number, identify one more and one less | - recognise the place value of each digit in a two-digit number (tens, ones) <br> - compare and order numbers from 0 up to 100; use <, > and = signs | - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) <br> - compare and order numbers up to 1000 | - find 1000 more or less than a given number <br> - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <br> - order and compare numbers beyond 1000 | - (read, write) order and compare numbers to at least 1000000 and determine the value of each digit | - (read, write), order and compare numbers up to 10 000000 and determine the value of each digit |
| $\begin{aligned} & \boldsymbol{0} \\ & \boldsymbol{0} \end{aligned}$ | Y1/2-Autumn 1 <br> Y1/2-Autumn 3 <br> Y1/2- Spring 2 <br> Y1/2- Summer 3 | Y1/2-Autumn 3 <br> Y2/3- Autumn 3 | Y2/3- Autumn 1 Y3/4- Autumn 1 | Y3/4- Autumn 1 <br> Y4/5-Autumn 1 | Y4/5- Autumn 1 <br> Y5/6- Autumn 1 | Y5/6- Autumn 1 |
|  |  | - use place value and number facts to solve problems. | - solve number problems and practical problems involving these ideas | - round any number to the nearest 10,100 or 1000 <br> - solve number and practical problems that involve all of the above and with increasingly large positive numbers | - interpret negative numbers in context <br> - round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 <br> - solve number problems and practical problems that involve all of the above | - round any whole number to a required degree of accuracy <br> - use negative numbers in context, and calculate intervals across zero <br> - solve number and practical problems that involve all of the above |
| ® |  | Y1/2-Autumn 3 <br> Y2/3- Autumn 3 | Y2/3- Autumn 1 Y3/4- Autumn 1 | Y3/4- Autumn 1 <br> Y4/5-Autumn 1 | Y4/5-Autumn 1 Y5/6-Autumn 1 | Y5/6-Autumn 1 |

## Addition and subtraction Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs <br> - 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 <br> - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot <br> - 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 <br> Y1/2-Summer 5 | Y1/2- Autumn 2 <br> Y2/3- Autumn 2 | Y2/3-Autumn 2 <br> Y2/3-Summer 2 <br> Y3/4-Autumn 2 | Y3/4-Autumn 2 <br> Y4/5-Autumn 2 | Y4/5-Autumn 2 <br> Y5/6-Autumn 2 <br> Y5/6-Summer 3 |  |

## Addition and subtraction Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - add and subtract onedigit and two-digit numbers to 20 , including zero | - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <br> a two-digit number and ones <br> a two-digit number and tens <br> - two two-digit numbers <br> > adding three one-digit numbers | - add and subtract numbers mentally, including: <br> > a three-digit number and ones a three-digit number and tens <br> - a three-digit number and hundreds <br> - 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) <br> - add and subtract numbers mentally with increasingly large numbers | - perform mental calculations, including with mixed operations and large numbers <br> - use their knowledge of the order of operations to carry out calculations involving the four operations |
|  | Y1/2-Autumn 2 <br> Y1/2-Summer 5 | Y1/2-Autumn 2 <br> Y2/3-Autumn 2 | Y2/3-Autumn 2 <br> Y2/3-Summer 2 <br> Y3/4- Autumn 2 | Y3/4-Autumn 2 Y4/5-Autumn 2 | Y4/5-Autumn 2 <br> Y5/6-Autumn 2 <br> Y5/6-Summer 3 | Y5/6- Autumn 2 |

## Addition and subtraction Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ ㅁ-9 | - solve problems with addition and subtraction: <br> > using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge methods 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 <br> - 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 <br> Y1/2-Summer 5 | Y1/2-Autumn 2 <br> Y2/3-Autumn 2 | Y2/3-Autumn 2 Y2/3-Summer 2 Y3/4- Autumn 2 | Y3/4-Autumn 2 <br> Y4/5-Autumn 2 | Y4/5-Autumn 2 <br> Y5/6-Autumn 2 <br> Y5/6-Summer 3 | Y5/6-Autumn 2 |

## Multiplication and division Progression



## Multiplication and Division Progression



## Multiplication and Division Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - 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 | - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts <br> 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 <br> 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 <br> 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 <br> - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates <br> Y4/5-Autumn 3 Y4/5- Spring 1 Y5/6-Autumn 2 | - solve problems involving addition, subtraction, multiplication and division <br> Y5/6- Autumn 2 |
|  |  |  |  |  | - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <br> Y4/5- Autumn 3 Y4/5-Spring 1 Y5/6- Autumn 2 | - use their knowledge of the order of operations to carry out calculations involving the four operations <br> Y5/6- Autumn 2 |

## Fractions, decimals and percentages Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - recognise, find and name a half as one of two equal parts of an object, shape or quantity <br> - recognise, find and name a quarter as one of four equal parts of an object, shape or quantity <br> Y1/2-Spring 5 | - 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 <br> 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 <br> - recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators <br> - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators <br> 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. <br> Y3/4- Spring 4 Y4/5- Spring 3 | - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - 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, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=$ $1 \frac{1}{5}$ ] <br> Y4/5- Spring 2 Y5/6- Autumn 3 Y5/6- Spring 1 Y5/6-Summer 4 |  |
|  |  | - Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ <br> Y1/2- Spring 5 <br> Y2/3- Spring 5 | - recognise and show, using diagrams, equivalent fractions with small denominators <br> - compare and order unit fractions, and fractions with the same denominators <br> Y2/3- Spring 5 <br> Y3/4- Spring 3 | - recognise and show, using diagrams, families of common equivalent fractions <br> Y3/4- Spring 3 Y4/5- Spring 2 | - compare and order fractions whose denominators are all multiples of the same number <br> Y4/5- Spring 2 <br> 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 <br> - compare and order fractions, including fractions $>1$ <br> Y5/6- Autumn 3 |

## Fractions, decimals and percentages Progression

|  | Milestone 1 | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - write simple fractions for example, $\frac{1}{2}$ of $6=$ 3 <br> Y1/2-Spring 5 Y2/3- Spring 5 | - add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$ <br> Y2/3- Spring 5 Y2/3-Summer 4 Y3/4-Summer 3 | - add and subtract fractions with the same denominator <br> Y3/4- Spring 3 Y4/5-Spring 2 | - 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 <br> 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 <br> - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2}=\frac{1}{8}$ ] <br> - divide proper fractions by whole numbers \|for example, $\frac{1}{3} \div 2=\frac{1}{6}$ ] Y5/6- Autumn 3 |
|  |  | - solve problems that involve all of the above <br> Y2/3- Spring 5 Y2/3-Summer 4 Y3/4-Summer 3 | - solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number |  |  |

## Fractions, decimals and percentages Progression

|  | Milestone 1 | Milestone 2 | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | - recognise and write decimal equivalents of any number of tenths or hundredths <br> - recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ <br> Y3/4- Spring 4 Y3/4-Summer 1 Y4/5-Spring 3 Y4/5-Summer 1 | - read and write decimal numbers as fractions [for example, $\left.0.71=\frac{71}{100}\right]$ <br> - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <br> Y4/5-Spring 3 Y5/6- Spring 2 Y5/6-Summer 4 | - identify the value of each digit in numbers given to three decimal places <br> Y5/6-Spring 2 |
| $\begin{array}{ll} \frac{\ddot{0}}{0} & \frac{y}{0} \\ \frac{1}{0} & \frac{0}{E} \\ 0 & 0 \\ 0 & 0 \end{array}$ |  | - round decimals with one decimal place to the nearest whole number <br> - compare numbers with the same number of decimal places up to two decimal places <br> Y3/4-Summer 1 Y4/5-Summer 1 | - round decimals with two decimal places to the nearest whole number and to one decimal place <br> - read, write, order and compare numbers with up to three decimal places <br> Y4/5- Spring 3 Y5/6- Spring 2 Y5/6-Summer 4 |  |

## Fractions, decimals and percentages Progression



## Fractions, decimals and percentages Progression



## Ratio and proportion Progression



## Algebra Progression

| Milestone 1 | Milestone 2 | Milestone 3 |
| :--- | :--- | :--- |


|  | solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ ロ-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 <br> - generate and describe linear number sequences <br> - express missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables. <br> Y5/6- Spring 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Measurement Progression



## Measurement Progression

|  | Milestone 1 |  | Milestone 2 |  | Milestone 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - 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 <br> - find different combinations of coins that equal the same amounts of money <br> - 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 <br> Y2/3- Autumn 2 | Y2/3-Autumn 2 <br> Y3/4-Summer 1 | Y3/4-Summer 1 Y4/5-Summer 1 | Y4/5- Summer 1 Y5/6- Spring 3 |  |

## Measurement Progression



## Measurement Progression



## Geometry Progression



Geometry Progression


## Geometry Progressior



## Statistics Progression



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 |
| :---: | :---: |
| 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 <br> 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, <br> 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 <br> 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, once, twice, 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, <br> 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, metres, kilometers, grams, kilograms, millimeters, liters, temperature, degrees <br> 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 |
| Geometry (position and direction) <br> Geometry (properties of shape) | 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, from, towards, away from, movement, slide, roll, turn, whole turn, half turn, stretch, bend, Rotation, clockwise, anticlockwise, straight line, ninety degree turn, right angle <br> 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 |
| Problem solving | Change, change over, split, separate, carry on, continue, repeat, what comes next?, find, choose, collect, use, make, build <br> 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) <br> Number facts, number line, number track, number square, number cards, abacus, counters, cubes, blocks, rods, die, dice, dominoes, pegs, peg board <br> Same way, different way, best way, another way, in order, in a different order, not all, every, each, Predict, describe the pattern, describe the rule, find, find all, find different, investigate | Same way, different way, best way, another way, in order, in a different order, not all, every, each, Predict, describe the pattern, describe the rule, find, find all, find different, investigate

## Vocabulary Progression

## Maths vocabulary for Milestone 2



## 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 |

