## Mathe Progeression Overview



Maths Progression Overview

|  | AUTUMN | SPPING | SUMMER |
| :---: | :---: | :---: | :---: |
| Place Value | UIU3 <br> Count from 0 in multiples of $4,8,50$ and 100 . <br> Find 10 or 100 more or less than a given number <br> UT <br> identify, represent and estimate numbers using different representations <br> Read and write numbers up to 1000 in numerals and words <br> Recognise the place value of each digit in a three digit number (hundreds, tens and ones) Compare and order numbers up to 1000 <br> Solve number problems and practical problems involving these ideas | These objectives will be recapped as part of Early Bird Maths. Time Challenge and Arithmetic lessons. |  |
| ADdITION AND SUBTRACTION | U2 <br> estimate the answer to a calculation and use inverse operations to check answers <br> add and subtract numbers mentally including: <br> a 3 digit number and ones <br> a 3 digit number and 10 s <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 <br> solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |  |
| Muliflication and DIVISION | U3 <br> recall and use multiplication and division facts for the three four and eight multiplication tables <br> 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 | UI <br> recall and use multiplication and division facts for the three four and eight multiplication tables <br> 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 <br> 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 | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |
| FRACTIONS |  | U3 <br> count up and down in tenths: recognise that tenths arise from dividing an object into 10 equal parts and in dividing one digit numbers in or quantity's 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> solve problems that involve all of the above recognise an show using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above | UI <br> add and subtract fractions with the same denominator within one whole for example $5 / 7+1 / 7=6 / 7$ <br> solve problems that involve all of the above |


| MEASUREMENT | Previous year group objectives will be recapped as part of Time Challenge. | U2 \& U4 <br> Measure, compare, add and subtract lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg.g); volume/capacity (1/ml) <br> U2 measure the perimeter of simple 2D shapes | U4 <br> Measure, compare, add and subtract lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg.g); volume/capacity ( $/ / \mathrm{ml}$ ) <br> U2 <br> add and subtract amount of money to give change using both pounds and pence in practical context <br> U3 <br> tell and write the time from an analogue clock including using Roman numerals from 1 too XII and 12 hour and 24 hour clocks <br> estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month. year and leap year |
| :---: | :---: | :---: | :---: |
| Geometry |  |  | U4 <br> draw 2D shapes <br> make 3D shapes using modelling materials recognise 3D shapes in different orientations and describe them <br> recognise angles as a property of shape or a description of a turn <br> identify right angles recognise that two right angles make half a turn three make 3/4 of a turn and four a complete turn; identify whether angles are greater than or less than a right angle <br> identify horizontal and vertical lines and pairs of perpendicular and parallel lines <br> U5 <br> interpret and present data using bar charts, pictograms and tables |
| STATISTICS |  |  | U5 <br> solve one step and two step questions for example How many more? and How many fewer) using information presented in scaled bar chart and pick to grammes and tables |

Maths Progeression Overview

|  | AUTUMN | SPPING | SUMMER |
| :---: | :---: | :---: | :---: |
| Place Value | UI U4 <br> Count in multiples of 6, 7, 9, 25 and 1000. <br> Count backwards through zero to include negative numbers <br> UT <br> identify, represent and estimate numbers using different representations <br> Read Roman numerals to $100(1$ to C$)$ and know that over time, the numeral system changed to include the concept of zero and place value <br> 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> Compare and order numbers beyond 1000 <br> Round any number to the nearest 10,100 or 1000 . <br> Solve number and practical problems that involve all of the above with increasingly large positive numbers | These objectives will be recapped as part of Early Bird Maths, Time Challenge and | Arithmetic lessons. |
| Addition and SUBTRACIION | U2 <br> estimate and use inverse operations to check answers to a calculation add and subtract numbers with up to four digits using formal written methods of columnar addition an subtraction where appropriate. <br> solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why. | These objectives will be recapped as part of Early Bird Maths. Time Challenge and | Arithmetic lessons. |
| Mulitplication and Division | U4 <br> recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> use place value known and derived facts to multiply and divide mentally. including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together 3 numbers recognise and use factor pairs and commutativity mental calculations | UT <br> recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> use place value known and derived facts to multiply and divide mentally. including: multiplying by 0 and 1 i dividing by 1 ; multiplying together 3 numbers <br> recognise and use factor pairs and commutativity mental calculations <br> multiply two digit and three digit numbers by a one digit number using formal written layout <br> solve problems involving multiplying and adding, including using the distributive law to multiply 2 digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as $n$ objects are connected to $m$ objects | These objectives will be recapped as part of Early Bird Maths. Time Challenge and Arithmetic lessons. |
| Fractions |  | U4 <br> count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 <br> U3 <br> recognise and show using diagrams, families of common equivalent fractions <br> add and subtract fractions with the same denominator <br> solve problems involving increasingly hard fractions to calculate quantities, and fractions to divide quantities, including non unit fractions where the answer is a whole number | U1 <br> count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 <br> These objectives will be recapped as part of Early Bird Maths. Time Challenge and Arithmetic lessons. <br> recognise and write decimal equivalents of any number of tenths or hundredths <br> recognise and write decimal equivalent to $1 / 41 / 2,3 / 4$ <br> 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 <br> solve simple measure and money problems involving fractions and decimals to two decimal places |
| :---: | :---: | :---: | :---: |
| MEASUREMENT |  | U4 <br> recognise and write decimal equivalents of any number of tenths or hundredths <br> recognise and write decimal equivalent to $1 / 41 / 2,3 / 4$ <br> U4 <br> find the effect of dividing a one or two digit number by 10 and 100 identifying the value of the digits in the answers as ones, tenths and hundredths <br> U3 U4 <br> solve simple measure and money problems involving fractions and decimals to two decimal places | U3 <br> convert between different units of measure <br> estimate compare and calculate different measures <br> read write and convert time between analogue and digital 12 and 24 hour clocks <br> solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days <br> U2 <br> Estimate, compare and calculate different measures including money in pounds and pence |
| GEOMETRY | U3 <br> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> find the area of rectilinear shapes by counting squares <br> Previous year group objectives will be recapped as part of Time Challenge. | U2 <br> convert between different units of measure <br> estimate compare and calculate different measures <br> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> find the area of rectilinear shapes by counting squares | U4 <br> compare and classify geometric shapes including quadrilaterals and triangles based on their properties and size <br> identify lines of symmetry in 2 D shapes presented on different orientations identify acute and obtuse angles and compare and order angles up to two right angles by size <br> identify lines of symmetry in $2 D$ shapes represented in different orientations complete a simple symmetrical figure with respect to a specific line of symmetry <br> U6 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 <br> plot specified points and draw sides to give to complete a given Polygon |
| Statistics |  |  | U5 <br> interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs <br> solve comparison, sum and difference problems using information presented in bar charts, pictograms ,tables and other graphs |


|  | AUTUMN | SPPING | SUMMER |
| :---: | :---: | :---: | :---: |
| Place Value | U <br> Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 <br> Count forwards and backwards with positive and negative whole numbers, including through zero <br> Read, write (order and compare) numbers to at least 1,000,000 and determine the value of each digit. <br> Read Roman numerals to $1000(\mathrm{M})$ and recognise years written in Roman numerals. <br> (Read, Write), order and compare numbers to at least 1,000,000 and determine the value of each digit. <br> Interpret negative numbers in context. <br> Round any number up to $1,000,000$ to the nearest 10, 100, 1000, 10,000 and 100,000 . 100,000. <br> Solve number problems and practical problems that involve all of the above | These objectives will be recapped as part of Early Bird Maths. Time Challenge and Arithmetic lessons. | Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 <br> Count forwards and backwards with positive and negative whole numbers, including through zero |
| ADDITION AND SUBTRACIION | U2 a problem levels of accuracy <br> 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 <br> solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why 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 | These objectives will be recapped as part of Early Bird Maths, Time Challenge and | Arithmetic lessons. |
| Mulitilication and Division | U3 <br> identify multiples and factors including finding all factor pairs of a number and common factors of 2 numbers <br> know and use vocabulary of prime numbers, prime factors and composite(non prime) numbers <br> establish whether a number up to 100 is prime and recall prime numbers up to 19 <br> recognise and use square numbers and cube numbers the notation for squared and cubed. <br> multiply numbers up to four 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 <br> divide numbers up to four digits by a one digit number using formal written method of short division and interpret remainders appropriately for the context context <br> multiply and divide whole numbers and those involving decimals by 10,100 and 1000 <br> 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 fraction and problems involving simple rates fraction and problems involving simple rates | U1 <br> multiply numbers up to four 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 <br> divide numbers up to four digits by a one digit number using formal written method of short division and interpret remainders appropriately for the context <br> multiply and divide whole numbers and those involving decimals by 10,100 and 1000 . <br> 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 fraction and problems involving simple rates fraction and problems involving simple rates <br> solve problems involving addition subtraction multiplication and division and a combination of these, including understanding the meaning of the equals sign |  |
| FRACTIONS | U4 <br> 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 mixed number for example <br> compare and order fractions whose denominators are all multiples of the same number <br> add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | U2 <br> add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |


| MeASUREMENT |  | read and write decimal numbers as fractions for example $0.71=71100$ recognise and use thousandths and relate them to tenths hundredths and decirinal equivalents <br> 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> recognise the percent symbol and understand that percent relates to number oof partse per hundred and write percentages as a fraction with the derominator roo and as a decimpal <br> Solve problems which require knowing percentage and decimal equivalents of <br>  | Yead and write decimal numbers as fractions for example $0.71=71100$ recognise and use thousandths and relate them to tenths hundredths and decimal equivalents <br> 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 Uolv Silve problems involving number up to three decimal places |
| :---: | :---: | :---: | :---: |
| GEOMETRY | U5 <br> centine and calculate the perimeter of composite rectilinear shapes in <br> calculate and compare the area of rectangles including squares and including Calculate and conmares the area of rectangles inctuang ssuares and using standard units and estimate the area of irregular shapes estimate volume for example using one centimetre cubed blocks to build cuboids incluaing cubes and capacily for example using water <br> Previous year group objectives will be recapped as part of Time Challenge. | $\mathrm{UCH}_{4} \mathrm{Convert}^{2}$ between different units of metric measure <br> understand and use approximate equivalence is between metric units and common imperial units such as inctes pounds and pints <br> use all four operations to solve problems involving measure using decimal notation incluaing scaling <br> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> calculate and compare the area of rectangles including squares and including using standard units and estimate the area of irregular shapes estimate volume for example using one centimetre cubed blocks to build cuboids incluaing cubes and capacity for example using water | U5 U6 <br> between different units of metric measure <br> understand and use approximate equivalence is between metric units and common imperial units such as inctes pounds and pints <br> use all four operations to solve problems involving measure using decimal notation incluading scaling <br> U3 all four operations to solve problems involving measure for example money <br> US solve problems involving converting between units of time <br> U6 <br> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> calculate and compare the area of rectangles including squares and including using standard units and estimate the area of irregular shapes <br> estimate volume for example using one centimetre cubed blocks to build cuboids including cubes and capacity for example using water |
| Statistics |  |  | distinquish between regular and irregular polygons based on reasoning about equal sides and angles <br> use the properties of rectangles to juice related facts and find missing lengths and angles <br> identify 3D shapes including cubes and other cuboids from 2D representations U2 and angles are measured in degrees: estimate and compare acute, obtuse and reflex angles <br> draw given angles, and measure them in degrees <br> identify <br> angles at a point and one whole turn <br> angles at a point on a straight line and half a turn <br> other multiples of 90 degrees <br> identify describe and represent the position of a shape following a reflection or trarsslation, using the appropriate language, and khow that the shape has not changed not changed |
|  |  | Complete read and interpret information in tables including timetables solve comparison, sum and difference problems using information presented in a line graph |  |


|  | AUTUMN | SPliNG | SUMMER |
| :---: | :---: | :---: | :---: |
| Place Value | U1 determine the value of each digit. <br> (Read, Write), order and compare numbers to at least 10,000,000 and determine the value of each digit. <br> Round any whole number to a requires degree of accuracy. <br> Use negative numbers in context, and calculate intervals across zero. Solve number problems that involve all of the above. | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |  |
| AdDITION AND SUBTRACTION | U2 <br> 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. <br> solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |  |
| Mulitplication and Division | U2 <br> identify common factors, common multiples and prime numbers use estimation to check to answers to calculations and determine, in the context of a problem. an appropriate degree of accuracy. <br> multiply multi digit numbers up to four digits by a two digit whole number using the formal written method of long multiplication <br> divide numbers up to four digits by a two digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or by rounding as appropriate for the context <br> divide numbers up to four digits by a two digit number using the formal written method of short division where appropriate, interprefing remainders according to the context <br> perform mental calculations including with mixed operations and large numbers <br> solve problems involving addition subtraction multiplication and division use their knowledge of the order of operations to carry out calculations involving the four operations | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |  |
| FRACTIONS | U3 <br> use common factors to simplify fractions: ballsuse common multiples to express fractions in the same denomination nomination <br> fractions <br> compare and under order fractions, including fractions>1 <br> U3 \& U4 using the concept of equivalent fractions <br> Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example $1 / 4 \times 1 / 2=1 / 8$ ) <br> Divide proper fractions by whole numbers (for example $1 / 3 \div 2=1 / 6$ ) | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |  |
| MEASUREMENT |  | U3 <br> identify the value of each digit in numbers given to three decimal places <br> U <br> multiply and divide numbers by 10,100 and 1000 giving answers up to three decimal places decimal places <br> multiply 1 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 <br> solve problems which require answers to be rounded to specific degrees of accuracy <br> U3 U4 <br> associate a fraction with division and calculate decimal fraction equivalents for a simple fraction <br> recall and use equivalence is between simple fractions decimals and percentages including in different contexts | These objectives will be recapped as part of Early Bird Maths, Time Challenge and Arithmetic lessons. |


| Geometry |  | ${ }_{\text {Son }}^{\text {Son }}$ <br> Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplicatior and division facts solve problems involving the calculation of percentages and the use of percertages for comparison percentages for comparison <br> solve problems involving similar shapes where the scale factor is known or can be found <br> solve problems involving unequal sharing and grouping using knowledge of fractitons and multies fractions and multiples |  |
| :---: | :---: | :---: | :---: |
| Statistics |  | U2 <br> simple formula <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 |  |
|  | Solve <br> 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 lenath, mass, volume ana time from a smaler unit of measure to a larger unit and vice versa using decimal notations up to three decimal places <br> convert between miles and kilometres <br> Previous year group objectives will be recapped as part of Time Challenge. <br> use read write and convert between standard units converting measurements of time from a smaller unit of measure to a larger unit and vice versa | U5 <br> recognise that shapes with the same area can have different perimeters and vice versa <br> recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles <br> calculate estimate and compare volume of cubes and cuboids using standard calculate estimate and compare volume of cubes and cuboids using standard units including cubic centimetres and cubic metres and extending to other units |  |
|  |  |  | describe positions on the full coordinate grid all 4 quadrants in the and translate simple shapes on the coordinate plane, and reflect them in the axes <br> Ul compare and classify geometric shapes based on their properties and sizes illustrate and name parts of circles including radius and diameter and circumference and know that the diameter is twice the radius recognise describe and build simple 3D shapes including making nets find unknown angles in any triangles, quadrilaterals and regular polygons recognise angles where they meet at a point, on a straight line or are vertically opposite and find missing angles vertrally opposite and find missing angles |
|  |  | U6 interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average |  |

