

Holy Trinity
C of E (VC)
Primary School
Halstead

## Mathematics

## PROGRESSION MAP

## September 2022

|  | Number | Pattern | Shape | Spatial Thinking |
| :---: | :---: | :---: | :---: | :---: |
| 4 11 4 4 4 4 4 | I can quickly recognise up to 3 objects, without having to count them individually. <br> I can recite numbers past 5. <br> I can say one number for each item in order: 1,2,3,4,5 <br> I know that the last number reached when counting a small set of objects tells me how many there are in total. <br> I can show 'finger numbers' up to 5 . <br> I can link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 <br> I am experimenting with my own symbols and marks as well as numerals. <br> I can solve real world mathematical problems with numbers up to 5 . <br> I can compare quantities using language such as: 'more than', 'fewer than'. | I can understand position through words alone, for example, "The bag is under the table," - with no pointing <br> I can make comparisons between objects relating to size, length, weight and capacity <br> I can talk about and identify the patterns around me. For example: stripes on clothes, designs on rugs and wallpaper. I can use informal language like 'pointy', 'spotty', 'blobs' etc <br> I can extend and create ABAB patterns - stick, leaf, stick, leaf <br> I can notice and correct an error in a repeating pattern. <br> I am beginning to describe a sequence of events, real or fictional, using words such as 'first', 'then...' | I can talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round' <br> I can select shapes appropriately; flat surfaces for building, a triangular prism for a roof etc. <br> I can combine shapes to make new ones; an arch, a bigger triangle etc. | I can describe a familiar route <br> I can discuss routes and locations, using words like 'in front of' and 'behind' |


|  | Number and Place Value | Addition \& Subtraction | Multiplication \& Division | Fractions | Measurement | Properties of Shapes | Position and Direction |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\bullet$ - l can count to and across 100, forwards and backwards, starting from any number. <br> - I can count and read numbers to 100 in numerals. <br> - I can count and write numbers to 100 in numerals. <br> - l can count in jumps of 2, 5 and 10s. <br> - I can identify 1 more and 1 less than a starting number. <br> - I can find and show numbers using objects and pictures including number lines and use: equal to, more than, less than (fewer), most and least. | - I can read and understand number statements using +, - and $=$. - I can write number statements using +, - and $=$. -I can change calculations to give the same answers e.g $3+2=5$, then $5-2=3$. -I can show that addition is the opposite of subtraction, for example if $3+2=5$, then $5-2=3$ - I can remember most of the number bonds for 10 and link the connected facts. - I can use number bonds up to 20 . | - I can answer multiplication questions using objects, pictures and other equipment. <br> - I can answer division questions using objects, pictures and other equipment. | - I can find and name $1 / 2$ (half) of an object, shape or amount. <br> - I can find and name $1 / 4$ (quarter) as one of four equal parts of an object, shape or amount. | - I can solve problems for length and height by telling which objects are longer or shorter / taller or shorter. <br> - I can solve problems for mass and weights by telling which objects are heavier or lighter. <br> - I can solve problems for capacity and volume by telling if a container is empty, half full or full and if there is more in one container than another. <br> - I can solve problems for time. I can tell if something is quicker or slower. I can tell if something happened earlier or later. | $\bullet$ - can recognise and name common 2D shapes such as rectangles, squares, circles and triangles. <br> - I can recognise and name common 3D shapes such as cuboids, cubes, pyramids and spheres. | - I can talk about whole, half, quarter and three quarter turns. I can then use this to explain movement, direction and position. |




|  | Number and Place Value |  <br> Subtraction | Multiplication \& Division | Fractions | Measurement | Properties of Shapes | Position and Direction | Statistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\bullet$ - can count forwards and backwards in steps of 2,3 , and 5 from 0 , and in 10 s from any number. <br> - I can find the place value of each digit of a number with tens and ones. <br> - I can find and show numbers using different equipment such as number lines and number squares. <br> - I can compare and order numbers from 0 to 100; use <, $>$ and $=$ signs <br> - I can read and write numbers to at least 100 in numerals <br> - I can read and write numbers | ```- I can solve problems with addition and subtraction including those involving numbers, quantities and measures by using objects and pictures. - I can answer simple addition and subtraction questions in my head as well as by writing them down. \\ - I can recall number bonds to 10, use these to work out number bonds to 20, and link other related facts. \\ - I can use addition and subtraction facts to 20 quickly and``` |  | - I can find, name and write fractions of a length, shape, set of objects or amount including $1 / 3$, 1/4, 2/4 and 3/4. <br> - I can write simple fractions, for example $1 / 2$ of $6=3$ and $2 / 4=$ 1/2. | - I can choose the right units to measure length, height, mass, temperature or capacity. I can read to the nearest unit and do this on rulers and scales. <br> - I can compare amounts using $>,<$ and $=$ <br> - I can use the £ sign and $p$ sign. I can use notes and coins to make a particular amount. <br> - I can find different ways for coins to add up to an amount. <br> - I can subtract money and give change. <br> - I can put | - I can notice and explain the properties of a 2D shape e.g number of sides and line of symmetry. <br> - I can notice and explain the properties of a 3D shape e.g number of edges, vertices and faces. <br> - I can name some 2D and 3D shapes in pictures or in a group and know some of their properties <br> - l can spot 2D shapes on the surface of 3D shapes such as a circle on a cylinder. <br> - I can compare and sort 2D and 3D shapes | - l can order mathematical objects in patterns and sequences. <br> - I can use mathematical vocabulary to describe position, direction and movement. This could include movement in a straight line. | $\bullet$ - can read and draw simple pictograms, tally charts, block diagrams and simple tables. <br> - I can ask and answer simple questions by counting the number of objects in each category and sorting categories by quantity. <br> - I can ask and answer questions about totalling and comparing grouped data. |




|  | Number \& Place Value | Addition \& Subtraction | Multiplication \& Division | Fractions | Measurement | Properties of Shape | Statistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ल) <br> 5 <br> E | - I can count from 0 in multiples of $4,8,50$ and 100 and can find 10 or 100 more or less than a given number <br> - I can recognise the place value of each digit in a 3-digit number (100s, 10s,1s) <br> - I can compare and order numbers up to 1,000 <br> - I can find, show and estimate numbers using objects and pictures. <br> - I can read and write numbers up to 1000 in numerals. <br> - I can read and write numbers to 1000 in words. <br> - I can solve number and word problems. <br> - I can identify, represent and estimate numbers using different representations | - I can add and subtract numbers in my head including a three digit number and ones. <br> - I can add numbers with up to three digits using formal column methods. <br> - I can add and subtract numbers in my head including a three digit number and tens. <br> - I can subtract numbers with up to three digits using formal column methods. <br> - I can add and subtract numbers in my head including a three digit number and hundreds. <br> - I can estimate the answer to a calculation and use this and inverse operations to check answers. <br> - I can solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction. | - I can recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. <br> - I can calculate multiplication and division problems, both mentally, in writing, using times tables, including two digit numbers times one digit numbers. <br> - I can solve problems including missing number problems, involving multiplication and division, including factors and ratio. | - I can 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> - I can write and find fractions of a set of data and recognise fractions with small denominators. <br> - I can find and use fractions of numbers such as $1 / 4$ of $8=2$ and $3 / 4$ of $8=6$. <br> - I can identify and show equivalent fractions. <br> - I can add fractions with the same denominator within one whole. <br> - I can subtract fractions with the same denominator within one whole. <br> - I can compare and order fractions with the same denominator. <br> - I can solve fraction problems. | I can measure, compare, add and subtract lengths ( $\mathrm{m}, \mathrm{cm}$ and mm ); mass (kg and g; volume and capacity ( 1 and ml ). <br> - I can measure the perimeter of simple 2D shapes. <br> - I can add and subtract change, using pounds and pence. I can do this with pound coins and notes. <br> - I can tell the time on a clock face. I can do this if it uses the Roman numerals from I to XII and I can use the 12 -hour or 24 -hour clocks. <br> - I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24 -hour clocks <br> - I can estimate and read time to the nearest minute. I can record time in seconds, minutes and hours. I can use words such as o'clock, am/pm, morning, afternoon, noon and midnight <br> - I can tell you the | - I can draw 2D shapes and make 3D shapes using modelling materials. I can recognise 3D shapes in different orientations. <br> - I can recognise angles as a property of shape. I know that angles are a description of a turn. <br> - I can spot right angles. I can spot when angles are greater or less than a right angle. <br> - I know that 2 right angles make a half-turn, three make three quarters of a turn and four make a full turn. <br> - I can spot horizontal and vertical lines and pairs of perpendicular and parallel lines. | - I can interpret and present data using bar charts, pictograms and tables <br> - I can solve one-step and two-step questions e.g "How many more?" and "How many fewer?" using information presented in scaled bar charts, pictograms and tables. |


|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


|  | Number \& Place Value | Addition \& Subtraction | Multiplication \& Division | Fractions(inc decimals) | Measurement | Properties of Shape | Position and Direction | Statistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - I can count in multiples of $6,7,9$, 25 and 1,000 <br> - I can find 1,000 more or less than a given number <br> - I can count backwards through 0 to include negative numbers <br> - I can recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s) <br> - I can order and compare numbers beyond 1,000 <br> - I can identify, represent and estimate numbers using different representations (including measures). <br> - I can round any number to the nearest 10, 100 or 1,000 <br> - I can solve number and practical problems that involve large positive numbers <br> - I can read Roman | - I can add numbers with up to four digits using formal column methods. <br> - I can estimate and use inverse operations to check answers to a calculation <br> - I can subtract numbers with up to four digits using formal column methods. <br> - I can solve two-step addition and subtraction problems using different methods and explain why I used them. | - I can recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> - I can use place value, known and number facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together 3 numbers <br> - I can use factor pairs in mental calculations <br> - I can multiply two-digit and three-digit numbers by a one-digit number using a formal written method. <br> - I can solve problems involving multiplying and adding, including the distributive law such as $3 \times(12+14)=$ $3 \times 12+3 \times 14$ | - I can recognise and show, using diagrams, families of common equivalent fractions <br> - I can count up and down in hundredths and know that dividing an object by 100 creates hundredths and by 10 creates tenths. <br> - I can solve problems involving fractions to calculate quantities and fractions to divide quantities. <br> - I can add and subtract fractions with the same denominator <br> - I can recognise and write decimal equivalents of any number of tenths or hundredths <br> - I can find and write decimal equivalents to $1 / 4$; 1/2; 3/4 <br> - I can divide one and two digit numbers by 10 and 100 and explain the effect this has | - I can convert between different units of measure e.g km into m and hours into minutes. <br> - I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - I can find the area of rectilinear shapes by counting squares <br> - I can estimate, compare and calculate different measures, including money in pounds and pence <br> - I can read, write and convert time between analogue and digital 12 and 24-hour clocks <br> - I can solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days | - I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes <br> - I can identify acute and obtuse angles and compare and order angles up to two right angles by size <br> - I can identify lines of symmetry in 2D shapes presented in different orientations <br> - I can complete a simple symmetric figure with respect to a specific line of symmetry. | - I can describe positions on a 2D grid as positive number coordinates <br> - I can describe movements between positions as translations of a given unit to the left/right and up/down <br> - I can plot points I am given and draw sides to complete a given polygon. | - I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time charts. <br> - I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. |



|  | Number \& Place Value | Addition \& Subtraction | Multiplication \& Division | Fractions (decimals \& percentages) | Measurement | Properties of Shape | Position <br> Direction | Statistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | - I can read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit <br> - I can keep multiplying a number by 10 or 100 up to 1,000,000 and count back. <br> - I can use negative numbers in context when looking at temperature and money:countin g forwards and backwards through 0 . <br> - I can round numbers up to $1,000,000$ to the nearest 10 , 100, 1,000, 10,000 and 100,000 | - I can add and subtract numbers with more than 4 digits,using formal written methods. <br> - I can add and subtract 2 and 3 digit numbers in my head. <br> - I can use rounding to check answers to calculations and determine levels of accuracy <br> - I can solve addition and subtraction multi-step problems in contexts, deciding which operations and method is the most suitable. | - I can find multiples and factors of a number and can identify factors common to 2 different numbers. . <br> - I know and use the vocabulary of prime numbers, prime factors and composite numbers <br> - I can establish whether a number up to 100 is prime and recall prime numbers up to 19 <br> - I can multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, | - I can compare and order fractions whose denominators are all multiples of the same number <br> - I can find and, name equivalent fractions of a given fraction including tenths and hundredths <br> - I can write equivalent fractions of a given fraction including tenths and hundredths. <br> - I can identify mixed numbers and improper fractions and convert from one form to the other such as $2 / 5+4 / 5=6 / 5$ $=11 / 6$ <br> - I can add and | - I can convert between different units of metric measure e.g km and m ; cm and $m$; $g$ and kg ; I and ml. <br> - I can understand and compare equivalences between metric units and common imperial units. These might include inches, pounds or pints. <br> - I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> - I can calculate and compare the area of rectangles | - I can identify 3D shapes, including cubes and other cuboids, from 2D representations <br> - I can estimate and compare acute, obtuse and reflex angles. I know that angles are measured in degrees. <br> - I can draw given angles, and measure them in degrees ( ${ }^{\circ}$ ) <br> - I can identify: * angles at a point and 1 whole turn (total 360 ${ }^{\circ}$ ) <br> * angles at a point on a straight line and half a turn (total $180^{\circ}$ ) | - I can identify, describe and represent the position of a shape following a reflection or translation. I can use the appropriate mathematical language to explain this and I know that the shape has not changed. | - I can solve comparison, sum and difference problems using information presented in a line graph <br> - I can complete, read and interpret information in tables, including timetables. |



|  |  |  | cubes. <br> - I can identify and use cube numbers and their notation. <br> - I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <br> - I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | - l can read, write, order and compare numbers with up to three decimal places. <br> - I can solve problems involving numbers up to three decimal places. <br> - I can recognise the percent symbol (\%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction <br> - I can solve problems which require knowing percentage and decimal equivalents of $1 / 2,1 / 4,1 / 5,2 / 5$, $4 / 5$ and | length, mass, volume, money using decimal notation including scaling. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


|  |  |  | fractions with a <br> denominator of <br> a multiple of 10 <br> or 25. |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


|  | Number \& Place Value | Addition, Subtraction, Multiplication \& Division | Fractions (decimals \& percentages) | Ratio \& Proportion | Algebra | Measurement | Properties of Shape | Position Direction | Statistics |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (0) <br> $\square$ <br> E <br> ( 0 8 | - I can read, write, order and compare numbers up to 10000 000 (ten million) and say the value of each digit <br> - I can round any whole number to a required degree of accuracy <br> - I can use negative numbers in context when looking at temperature or money, counting in jumps forwards and backwards through 0. <br> - I can solve number and practical problems that involve ordering and comparing | - \| can mentally calculate using a mix of the four operations. <br> - l can solve problems with more than one step and operation and explain why I used them. <br> - l can solve addition and subtraction word/ practical problems. <br> - I can use estimation to check answers to calculations and determine an appropriate degree of accuracy. <br> - l can multiply numbers of up to 4 digits | - I can use common factors and multiples to simplify fractions and express fractions in the same denominatio n. <br> - I can compare and order fractions, including fractions >1 <br> - I can add and subtract fractions with different denominator s and mixed numbers, using the concept of equivalent fractions <br> - I can multiply simple pairs of proper | - I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts <br> - I can solve problems involving the calculation of percentages and the use of percentages for comparison <br> - I can solve problems involving similar shapes where the scale factor is known or can | - I can use simple formulae <br> - I can generate and describe linear number sequences <br> - I can express missing number problems algebraically <br> - I can find pairs of numbers that satisfy an equation with two unknowns <br> - I can enumerate possibilities of combinations of 2 variables. | - I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate <br> - I can use, read, write and convert between standard units, converting measuremen ts of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to | - I can draw 2D shapes using given dimensions and angles <br> - I can recognise, describe and build simple 3D shapes, including making nets <br> - I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals , and regular polygons <br> - I can illustrate and name parts | - \| can describe positions on the full coordinate grid (all 4 quadrants) <br> - I can draw and translate simple shapes on the coordinate plane, and reflect them in the axes. | - l can interpret and construct pie charts and line graphs and use these to solve problems <br> - l can calculate and interpret the mean as an average. |




|  |  | $\bullet$ l can use <br> estimating to <br> check <br> answers and <br> problem <br> solving. | percentages, <br> including in <br> different <br> contexts. |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

