Maths

Subject Intent
At Three Bridges, Primary School, we want to engage, inspire and challenge pupils, equipping them with the knowledge, vocabulary and skills to experiment and create their own works of ant, crafts and designs. The children will appreciate the importance of experimenting and become resilient risk takers, able to express themselves through their understanding of art. They mill value the work of artists and designers, and the contribution this has to the world around us. We want children to enjoy ant through imagination and creative expression, in a nurturing and respectful environment where we celebrate differences and appreciate different cultures.

$$
\binom{2+3=5}{-20)}
$$

| EYFS <br> Statutory <br> Non-statutory | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number and place value |  |  |  |  |  |  |
| - Have a deep understanding of number to 10 , including the composition of each number <br> - Subitise to 5 <br> - Automatically recall number bonds up to 5 and some number bonds to 10 , including double facts. <br> - Verbally count beyond 20 , recognising the pattern of the counting system <br> - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. <br> - Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally. | - Count to and across 100 , forwards and backwards, beginning with 0 or 1 , or from any given number <br> - Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens <br> - Given a number, identify one more and one less <br> -Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least <br> - Read and write numbers from 1 to 20 in numerals and words. | - Count in steps of 2, 3, and 5 from 0 , and in tens from any number, forward and backward <br> - Recognise the place value of each digit in a two-digit number (tens, ones) <br> -Identify, represent and estimate numbers using different representations, including the number line <br> - Compare and order numbers from 0 up to 100; use <, > and = signs <br> - Read and write numbers to at least 100 in numerals and in words <br> - Use place value and number facts to solve problems | - Count from 0 in <br> multiples of $4,8,50$ <br> and 100 . <br> - Compare and order numbers up to 1,000 . <br> - Read and write numbers to 1,000 in numerals and words. <br> - Find 10 or 100 more or less than a given number. <br> - Recognise the place value of each digit in a 3-digit number. <br> -Identify, represent and estimate numbers using different representations. <br> - Solve number problems and practical problems using above. | - Count in multiples of <br> 6, 7,9, 25 and 1,000. <br> - Order and compare numbers beyond <br> 1,000. <br> - Find 1,000 more or less than a given number. <br> - Recognise the place value of each digit in a 4-digit number. <br> - Read Roman numerals to 100 and know that over time the numeral system changed to include the concept of zero and place value. <br> - Identify, represent and estimate numbers using different representations. <br> -Round any number to the nearest 10,100 or 1,000. <br> - Count backwards through zero to include negative numbers. <br> - Solve number and practical problems with the above (involving increasingly large numbers). | - Read, write, order and compare numbers to at least 1 , 000,000 and determine the value of each digit <br> - Count forwards or backwards in steps of powers of 10 for any given number up to <br> 1,000, 000 <br> - Interpret negative <br> numbers in context, <br> count forwards and <br> backwards with <br> positive and negative whole numbers, <br> including through zero <br> -Round any number <br> up to $1,000,000$ to the nearest 10, 100, 1000, <br> 10000 and 100000 <br> - Solve number problems and practical problems that involve all of the above <br> - 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 <br> - 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. |



| Multiplication and division |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - Automatically recall number bonds up to 5 and some number bonds to 10 , including double facts. <br> - Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally. | - 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. | - Recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers <br> - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(x)$, division ( $\div$ ) and equals (=) signs <br> - Show that <br> multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | - Recall and use multiplication and division facts for the 3 , 4 and $8 x$ tables. <br> -Write and calculate mathematical statements for multiplication and division using the multiplication tables, including for 2-digit numbers, using mental and progressing to formal written methods. <br> - Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which $n$ objects are connected to $m$ objects. | - Recall multiplication and division facts 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 three numbers. <br> -Recognise and use factor pairs and commutativity in mental calculations. <br> - Multiply 2-digit numbers by a 1 -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. | - Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <br> - Know and use the 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> - 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 <br> -Multiply and divide numbers mentally drawing upon known facts <br> - Divide numbers up to <br> 4 digits by a one-digit number using the 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> -Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) | - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication -Divide numbers up to 4 digits by a twodigit 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 4 digits by a twodigit number using the formal written method of short division where appropriate, interpreting remainders according to the context <br> - Identify common factors, common multiples and prime numbers <br> - Perform mental calculations, including with mixed operations and large numbers - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. |





| Measurement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Make comparisons between objects relating to size, length, weight and capacity. <br> Compare length, weight and capacity. <br> Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...' | - Compare, describe and solve practical problems for: <br> - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] <br> - mass/weight [for example, heavy/light, heavier than, lighter than] <br> - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] <br> - time [for example, quicker, slower, earlier, later] <br> - Measure and begin to record the following: <br> - lengths and heights <br> - mass/weight <br> - capacity and volume <br> - time (hours, minutes, seconds) <br> - Recognise and know the value of different denominations of coins and notes - Sequence events in chronological order using language [for | - Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass (kg/g); temperature $\left({ }^{\circ} \mathrm{C}\right)$; capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels <br> - Compare and order lengths, mass, volume/capacity and record the results using $>$, < and = <br> -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 <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <br> - Compare and <br> sequence intervals of time <br> -tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times <br> - Know the number of minutes in an hour and the number of hours in a day. | - I can compare lengths using $\mathrm{m}, \mathrm{cm}$ \& mm. <br> - I can compare mass using kg \& g . <br> - I can compare volume/capacity using I \& ml. <br> - I can measure lengths using $\mathrm{m}, \mathrm{cm}$ \& mm . <br> - I can measure mass using kg \& g . <br> - Measure <br> volume/capacity using I \& ml. <br> - Add and subtract lengths using $\mathrm{m}, \mathrm{cm}$ \& mm . <br> - Add and subtract mass using kg \& g . <br> - Add and subtract volume/capacity using I \& ml. <br> -Tell and write the time from an analogue clock (12 hour clock). <br> -Tell and write the time from an analogue clock (24 hour clock). <br> -Tell and write the time from an analogue clock (Roman numerals). <br> - Estimate and read time with increasing accuracy to the nearest minute. <br> -Record and compare time in terms of seconds, minutes and hours. <br> - Use the following <br> vocabulary: o'clock, | - Compare different measures, including money in £ and p . <br> - Estimate different measures, including money in $£$ and $p$. <br> - Calculate different measures. Including money in £ and p. <br> -Read, write and convert time between analogue and digital 12 hour clocks. <br> -Read, write and convert time between analogue and digital 24 hour clocks. <br> - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. <br> - Convert between different units of measurements <br> - Measure and calculate the perimeter of a rectilinear figure in cm and m . <br> - Find the area of rectilinear shapes by counting squares. <br> - 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) <br> - Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints <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, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes <br> - Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] <br> - Solve problems involving converting | - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> - 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 <br> - Convert between miles and kilometres <br> -Recognise that shapes with the same areas can have different perimeters and vice versa <br> - Recognise when it is possible to use formulae for area and volume of shapes <br> - Calculate the area of parallelograms and triangles <br> - 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]. |





| Statistics |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - Interpret and construct simple pictograms, tally charts, block diagrams and simple tables <br> - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <br> - Ask and answer questions about totalling and comparing categorical data. | - Interpret and present data using bar charts, pictograms and tables. <br> - Solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables | - 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. | - Solve comparison, sum and difference problems using information presented in a line graph <br> - Complete, read and interpret information in tables, including timetables | - Interpret and construct pie charts and line graphs and use these to solve problems <br> - Calculate and interpret the mean as an average. |
| 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 <br> - 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. |

