## Maths

The aim of this document is to give an at-a-glance guide to how the Dean Trust Maths curriculum links to the EYFS early learning goals and the Key Stage 1 and 2 national curriculums, and how it progresses through topics. In each of the major topic areas (Number, Measurement, Geometry and Statistics), the curriculum has been broken down into key areas. For each of these areas, you can then see which NC objectives are covered in that year, together with the term and block in which that objective is first met. Objectives are consolidated and revisited throughout the year as necessary.

## Place Value Count

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Begin to subitise up to 5 <br> Verbally count up to 10 using nursery rhymes. | Subitise up to 5 <br> Verbally count beyond 20, recognising the pattern of the counting system. | count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens | count in steps of 2,3 , and 5 from 0 , and in tens from any number, forward and backward | count from 0 in multiples of 4 , 8,50 and 100 ; find 10 or 100 more or less than a given number | count in multiples of 6 , 7, 9, 25 and 1000 count backwards through zero to include negative numbers | count forwards or backwards in steps of powers of 10 for any given number up to 1 000000 count forwards and backwards with positive and negative whole numbers, including through zero |  |
| Autumn Spring Summer | Autumn Spring Summer | Autumn 1 Spring 1 Spring 3 Summer 4 | Autumn 1 | Autumn 1 Autumn 3 | Autumn 1 Autumn 4 | Autumn 1 Summer 4 |  |

## Place Value Represent

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Begin to have an <br> understanding of number, including the composition of numbers up to 5. | Have a deep understanding of number 10 , Including the composition of each number. | 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. | 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 | 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 | read, write, (order and compare) numbers to at least 1000 000 and determine the value of each digit <br> read Roman numerals to 1000 (M) and recognise years written in Roman numerals | read, write, (order and compare) numbers up to 10000000 and determine the value of each digit |
| Autumn Spring Summer | Autumn Spring Summer | Autumn 1 Spring 1 Spring 3 Summer 4 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |

## Place Value: Use and compare

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| To begin to compare quantities up to ten in different contexts. <br> To begin to recognise when one quantity is greater than, less than or the same as the other quantity | Compare quantities up to ten in different contexts. <br> Recognise when one quantity is greater than, less than or the same as the other quantity. | 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 10000000 and determine the value of each digit |
| Autumn 1\&2 Spring 1\&2 <br> Summer 1\&2 | Autumn 1\&2 Spring 1\&2 <br> Summer 1\&2 | Autumn 1 Spring 1 Spring 3 Summer 4 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |

Place Value: Problems/Rounding

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 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 1 000000 to the nearest 10, 100, 1000, 10 000 and 100 000 <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 |
|  |  |  | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |

Addition and Subtraction: Calculations

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Addition and Subtraction: Problems

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| To begin to use first, then and now to create addition and subtraction stories. | Use first, then and now to create addition and subtraction stories. <br> To begin to solve missing number problems | solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such $\text { as } 7=\square-9$ | solve problems with addition and subtraction: <br> using concrete objects and pictorial representations, including those involving numbers, quantities and measures $>$ applying their increasing knowledge of mental and written methods | solve problems, including <br> missing number problems, using number facts, place value, and more complex addition and subtraction | solve addition and subtraction twostep problems in contexts, deciding which operations and methods to use and why | solve addition <br> and <br> subtraction <br> multi-step <br> problems in <br> contexts, <br> deciding <br> which <br> operations <br> and methods to <br> use and why <br> solve problems <br> involving <br> addition, <br> subtraction, <br> multiplication <br> and <br> division and a <br> combination of these, <br> including <br> understanding <br> the <br> meaning of the equals sign | solve addition <br> and <br> subtraction <br> multi-step <br> problems in <br> contexts, <br> deciding <br> which <br> operations <br> and methods to use and why |
| Summer | Spring Summer | Autumn 2 Spring 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 |

Multiplication \& Division: Recall/Use

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Begin to recall and use doubles of numbers to 10. | Recall and use doubles of numbers to 10 and corresponding halves. | recall and use <br> multiplication <br> and division <br> facts for the 2, 5 <br> and 10 <br> multiplication <br> tables, including <br> recognising odd <br> and even <br> numbers <br> show that multiplication of two numbers can be done in any order <br> (commutative) and division of one number by another cannot | recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables | recall <br> multiplication <br> and division <br> facts for <br> multiplication <br> tables up to $12 \times$ <br> 12 <br> use place value, <br> known and derived facts to multiply and divide mentally, including: <br> multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers <br> recognise and use factor pairs and commutativity in mental calculations | identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <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> recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) | identify common factors, common multiples and prime numbers <br> use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy |
|  | Summer |  | Spring 2 | Autumn 3 Spring 1 | Autumn 4 Spring 1 | Autumn 3 | Autumn 2 |


| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs | write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods | multiply two-digit and three-digit numbers by a one-digit number using formal written layout | multiply numbers up <br> to 4 digits by a one- <br> or two-digit number <br> using a <br> formal written <br> method, <br> including long <br> multiplication for twodigit <br> numbers <br> multiply and divide numbers mentally drawing upon known facts <br> divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context <br> multiply and divide whole numbers and those involving decimals by 10 , 100 and 1000 | multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <br> divide numbers up to <br> 4 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 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context <br> perform mental calculations, including with mixed operations and large numbers |
|  |  |  | Spring 2 | Autumn 3 Spring 1 | Spring 1 | Autumn 3 Spring 1 | Autumn 2 |

Multiplication \& division: Problems

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 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, menta methods, and multiplication and division facts, including problems in contexts | solve problems, including missing <br> number <br> problems, <br> involving <br> multiplication <br> and <br> division, <br> including <br> positive integer <br> scaling problems <br> and <br> correspondence <br> problems in <br> which <br> n objects are connected to $m$ objects | solve problems involving multiplying and adding, including using the distributive law to multiply twodigit numbers by one digit, integer scaling problems and harder correspondence problems such as $n$ objects are connected to m objects | 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 | solve problems involving addition, subtraction, multiplication and division |
|  |  | Summer 1 | Spring 1 | Spring 1 | Spring 1 | Autumn 3 Spring 1 | Autumn 2 |

Multiplication and Division: Combined

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign | use their knowledge of the order of operations to carry out calculations involving the four operations |
|  |  |  |  |  |  | Spring 1 | Autumn 2 |

Fractions: Recognise and write

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 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 | recognise, find, name and write fractions $1 / 3,1 / 4$, $2 / 4$, and $3 / 4$ of a length, shape, set of objects or quantity | 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 nonunit fractions with small denominators <br> recognise and use fractions as numbers: unit fractions and nonunit fractions with small | count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. | 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, $2 / 5$ $+4 / 5=6 / 5=1$ 1/5]. |  |
|  |  | Summer 2 | Summer 1 | Spring 3 | Spring 4 Summer 1 | Autumn 4 |  |

Fractions: Compare

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Recognise the equivalence of 2/4 \# and 1/2 | recognise and show, using diagrams, equivalent fractions with small denominators <br> compare and order unit fractions, and fractions with the same denominators | recognise and show, <br> using diagrams, families of common equivalent fractions | compare and order fractions whose denominators are all multiples of the same number | use common <br> factors to <br> simplify <br> fractions; use <br> common <br> multiples to <br> express fractions <br> in the same <br> denomination <br> compare and order fractions, including <br> fractions $>1$ |
|  |  | Summer 2 | Summer 1 | Spring 3 | Spring 3 | Autumn 4 | Autumn 3 |

Fractions: Calculations

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | write simple fractions for example, $1 / 2$ of 6 $=3$ | add and subtract <br> fractions with <br> the same denominator within one whole [for example, 5/7 + $1 / 7=6 / 7$ | add and subtract fractions with the same denominator | add and subtract <br> fractions with <br> the same <br> denominator <br> and <br> denominators <br> that are <br> multiples of the <br> same number <br> multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | 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 $1 / 4 \mathrm{x}$ $1 / 2=1 / 8$ ] <br> divide proper fractions by whole numbers [for example |
|  |  |  | Summer 1 | Summer 1 | Spring 3 | Autumn 4 Spring 2 | Autumn 3 Autumn 4 |

Fractions: Solve problems

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  | solve problems <br> that involve all <br> of the above |  |  |  |  |
|  |  |  |  | Summer 1 | Spring 3 | Autumn 4 <br> Spring 2 | Autumn 3 <br> Autumn 4 |

Decimals: Recognise, write, compare

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | recognise and write decimal equivalents of any <br> number of tenths or hundredths <br> - recognise and write decimal equivalents to $1 / 4,1 / 2,3 / 4$. <br> -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 | read and write decimal numbers as fractions [for example, $0.71=$ 71/100 <br> - 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 | identify the value of each digit in numbers given to three decimal places |
|  |  |  |  |  | Spring 4 <br> Summer 1 | Spring 3 <br> Summer 3 | Spring 3 |

Fractions, decimals and percentages

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | - solve simple measure and money problems involving fractions and decimals to two decimal places | - recognise the per cent symbol (\%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100 , and as a decimal • solve problems which require knowing percentage and decimal equivalents of $1 / 2$ $1 / 41 / 52 / 54 / 5$ and those fractions with a denominator of a multiple of 10 or 25 | - associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3 8 <br> - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts |
|  |  |  |  |  | Spring 3 Spring 4 Summer1 | Spring 3 | Spring 3 Spring 4 |

Ratio and proportion

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts <br> - solve problems involving the calculation/use of 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 fractions and multiples |
|  |  |  |  |  |  |  | Spring 1 |

Algebra

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ ? -9 | - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems |  |  | - use simple <br> formulae <br> - generate and describe linear number <br> sequences <br> - express <br> missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables |
|  |  |  |  |  |  |  | Spring 2 |

Using measures

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Compare length, weight and capacity. | Compare length, weight and capacity. | - compare, describe and solve practical problems for: <br> $>$ lengths and heights <br> > mass/weight <br> $>$ capacity and volume <br> $\nabla$ time <br> - measure and begin to record the following: <br> $>$ lengths and heights <br> $>$ mass/weight <br> $>$ capacity and volume <br> $>$ time (hours, minutes, <br> seconds) | - choose and use appropriate standard units to estimate and measure length/height in any direction (m/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 = | - measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $1 / \mathrm{ml}$ ) | - Convert between different units of measure [for example, kilometre to metre; hour to minute] <br> - estimate, compare and calculate different measures | - convert <br> between <br> different units of metric measure <br> - understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints <br> - use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling | - solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. 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 3 d.p. <br> - convert <br> between <br> miles and <br> kilometres |
|  |  | Spring 4 Spring 5 Summer 6 | Spring 3 Spring 4 | Spring 2 Spring 4 | Spring 2 Summer 3 | Spring 4 <br> Summer 5 <br> Summer 6 | Autumn 5 |

Money

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - 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 <br> 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] |  |
|  |  | Summer 5 | Spring 1 | Summer 2 | Summer 2 | Summer 3 |  |

Time

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] <br> - recognise and use language relating to dates, including days of the week, weeks, months and years <br> - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times | - compare and 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 | - tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12hour 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, a.m./p.m., morning, afternoon, noon and midnight <br> - know the number of seconds in a minute and the number of days in each month, year and leap year <br> - compare durations of events [for example to calculate the time taken by particular events or tasks] | - 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 | - solve problems involving converting between units of time | - 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 |
|  |  | Summer 6 | Summer 2 | Summer 3 | Summer 3 | Summer 5 | Autumn 5 |

Perimeter, area, volume

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | - measure the perimeter of simple 2-D shapes | - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - find the area of rectilinear shapes by counting squares | - measure and <br> 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 blocks to build cuboids] and capacity [for example, using water] | - 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 |
|  |  |  |  | Spring 2 | Autumn 3 Spring 2 | Spring 4 Summer 6 | Spring 5 |

2D Shapes

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. | - recognise and name common 2- D shapes [for example, rectangles (including squares), circles and triangles] | - identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line <br> - identify 2-D <br> shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] <br> - compare and sort common 2D shapes and everyday objects | - draw 2-D shapes | - compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes <br> - identify lines of symmetry in 2-D shapes presented in different orientations | - distinguish between regular and irregular polygons based on reasoning about equal sides and angles. <br> - use the properties of rectangles to deduce related facts and find missing lengths and angles | - draw 2-D <br> shapes using given <br> dimensions and angles <br> - compare and classify geometric shapes based on their properties and sizes <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius |
|  |  | Autumn 3 | Autumn 3 | Summer 4 | Summer 4 | Summer 1 | Summer 1 |

3D Shapes

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - recognise and name common 3- D shapes [for example, cuboids (including cubes), pyramids and spheres] | - recognise and name common <br> 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] <br> - compare and sort common 3D shapes and everyday objects | - make 3-D <br> shapes using modelling materials; recognise 3-D shapes in different orientations and describe them |  | - identify 3-D shapes, including cubes and other cuboids, from 2D representations | - recognise, describe and build simple 3-D shapes, including making nets |
|  |  | Autumn 3 | Autumn 3 | Summer 4 |  | Summer 1 | Summer 1 |

Angles and Lines

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | - recognise angles as a property of shape or a description of a turn <br> - identify right angles, recognise that two right angles make a halfturn, three make three quarters 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 | - 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 presented in different orientations <br> - complete a simple symmetric figure with respect to a specific line of symmetry | - know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees <br> - identify: <br> > angles at a point and one whole turn (total $360^{\circ}$ ) <br> angles at a point on a straight line and 12 a turn (total $180^{\circ}$ ) > other multiples of $90^{\circ}$ | - find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles |
|  |  |  |  | Summer 4 | Summer 4 | Summer 2 | Summer 1 |

Position and Direction

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Select, rotate and manipulate shapes in order to develop spatial reasoning skills | - describe position, direction and movement, including whole, half, quarter and three-quarter turns | - order and arrange <br> combinations of mathematical <br> objects in <br> patterns and <br> sequences <br> - use <br> mathematical <br> vocabulary to <br> describe <br> position, <br> direction and <br> movement, <br> including <br> movement in a <br> straight line and <br> distinguishing <br> between <br> rotation as a <br> turn and in <br> terms of right <br> angles for <br> quarter, half and <br> three-quarter <br> turns (clockwise <br> and anti- <br> clockwise) |  | - describe positions on a 2D grid as coordinates in the first quadrant <br> - describe <br> movements between positions as translations of a given unit to the left/right and up/down <br> - plot specified points and draw sides to complete a given polygon | - identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed | - describe positions on the full coordinate grid (all four quadrants) <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes |
|  |  | Summer 3 | Summer 4 |  | Summer 6 | Summer 2 | Summer 2 |

Present and interpret data

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | - interpret and construct simple pictograms, tally charts, block diagrams and simple tables | - interpret and present data using bar charts, pictograms and tables | - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs | - complete, read and interpret information in tables, including timetables | - interpret and construct pie charts and line graphs and use these to solve problems |
|  |  |  | Summer 3 | Summer 5 | Summer 5 | Spring 5 | Spring 6 |

## Solve statistical problems

| Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | - ask and answer <br> simple questions <br> by counting the number of objects <br> in each category <br> and sorting the <br> categories by <br> quantity <br> - ask and answer <br> questions about <br> totalling and <br> comparing <br> categorical data | - solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables | - 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 | - calculate and interpret the mean as an average |
|  |  |  | Summer 3 | Summer 5 | Summer 5 | Spring 5 | Spring 6 |


| Impact (End Point) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EYFS | KS1 |  | KS2 |  |  |  |
| Nursery and Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Children in Reception will have a deep understanding of number to 10 , including the composition of each number; 14. They will know and understanding how to Subitise (recognise quantities without counting) up to 5 . They will be able to automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10 , including double facts. Children will be able to verbally count beyond 20 , recognising the pattern of the counting system. They can compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Children will also be able to explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally | Children in Year 1 should be able to count to thirty and identify number bonds to ten and twenty. They should be able to add and subtract two groups and write number sentences to show this. They should be able to use resources to show their reasoning. Children should be able to identify a range of simple 2D and 3D shapes and recall basic properties (e.g. corners, faces). They can divide objects into groups and draw simple arrays. They can identify coins and measure simple lengths, heights, capacities and volumes. | Children in Year 2 will be able to count to 100 and beyond, They will use place value to add and subtract a 2digit and <br> a 2digit number beginning to show exchange and carrying. They know their 2,5 , and 10 times table They can name and describe common 2d and 3d shapes. They can show mastery in the way that they use their written methods and understand word problems. They will be confident using bar models and part part whole models. They understand the fractions halves quarters and thirds. They recognize and use coins. They can tell the time to the nearest 15 minutes. | Children in Year <br> 3 have a secure understanding of place value to <br> 3 digit numbers, are able to use the column method confidently to add and subtract 3 numbers. They will have a secure knowledge of the 3,4 and 8 times tables and will be able to use written methods for multiplication and division. | Children in Year <br> 4 have a growing <br> confidence with <br> place value, <br> using these skills <br> within both <br> written and <br> mental <br> calculations for <br> all four <br> operations. <br> Children have <br> developed a <br> better <br> understanding <br> of mathematical <br> reasoning. | Children in Year <br> 5 are prepared for KS2 SATS through their knowledge of mathematical concepts and their ability to explain and reason their mathematical thinking using a wide range of vocabulary. | Children in Year <br> 6 are prepared for transition to KS3 through their knowledge of mathematical concepts and their ability to explain and reason their mathematical thinking using a wide range of vocabulary. |

