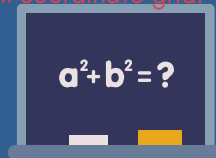# Mathematics
Curriculum Map

Y6

1:1

In Y6, I understand place value to at least 10 000 000 and can work with decimals to 3 decimal places. I use common factors to simplify fractions and can add, subtract, multiply and divide fractions. I am introduced to ratio, proportion and algebra as I explore formulaw and learn to express missing numbers algebraically. I work with all 4 quadrants on a full coordinate grid.

$$a^2 + b^2 = ?$$

In Y5, I read, write, order and compare numbers to at least 1,000,000 and can round these to the nearest 10, 100, 1 000, 10 000 and 100 000. I add, subtract, multiply and divide numbers with more than 4 digits using long and short written methods and solve multi-step problems. I learn about prime, composite, square and cube numbers. I recognise mixed numbers and improper fractions and can read and write decimal numbers as fractions and percentages. I learn to recognise equivalences between metric and imperial units of measure.

Y5

H	T	O	Tths	Hths

-3 -2 -1 0 1 2 3

I n Y4, I begintocountback through 0, recognising negative numbers. I read Roman numeralsto100and can round anynumberto10, 100 or 1000.Isolve2-step problems involvingaddition and subtractionofnumbersup to 4 digitsandknowmy multiplication and division facts to 12x12.Ilearnto recognise equivalentfractions, count up anddownin hundredths, find theareaof shapes by countingsquares, describe translationsandthe position on a2Dgridas coordinates in the first quadrant.

Y4

Y3

In Y3, I read and write numbers up to 1000 in numerals and words and understand the place value of each digit, enabling me to compare them and find 10 or 100 more or less than a number. I add and subtract numbers up to 3 digits using column methods, estimate the answers to my calculations and use the inverse to check. I learn to add, subtract, compare and order fractions with the same denominator and count up and down in tenths. I tell the time on 12 and 24-hour clocks, including those with Roman numerals. I measure the perimeter of simple 2D shapes and identify angles greater or less than a right angle.

Y2

In Y2, I learn to read, write and recognise numbers to at least 100 in numerals and words and compare these using < > and =. I add 1 and 2-digit numbers and solve problems using concrete objects, numberlines and pictorial representations. I learn to recognise odd and even numbers, understand fractions such as 1/3 and 3/4, use standard units of measure such as cm and g and tell the time to 5 minutes. I compare and sort 2-D and 3-D shapes.

0 5 10 15 20

Y1

In Y1, I learn to read write and count numbers to 100. I add and subtract one and two digit numbers to 20 and recognise 1 more and 1 less. I begin to recognise and understand half and quarter as equal parts of a whole. I use the language of dates and tell the time to half past and o'clock. I learn to recognise common 2D and 3D shapes and use the language of position and direction such as half turn.

EYFS

I enjoy a wide range of practical activities and games that will enable me to build my early understanding of mathematical concepts. I will learn to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. I will also develop my spatial reasoning skills acrossall areas of mathematics including shape, space andmeasures.

Mathematics
Curriculum Map

Reception

Place Value and Counting

What I learn

Counting:
To count objects, actions and sounds.
To subitise (recognise quantities without counting) up to 5
To verbally count to 10 and then beyond 20.
To recognise the pattern of the counting system.

Represent:
To link the number symbol (numeral) with its cardinal number value.
To read and write numbers to 20 in numerals.

Use place value and compare:
To understand the 'one more than/one less than' relationship between consecutive numbers
To explore the composition of numbers to 10.
To compare quantities up to 10 in different contexts
To recognise when one quantity is greater than, less than or the same as the other quantity.
To explore and represent patterns within numbers up to 10, including evens and odds

Addition and subtraction

What I learn

To be able to add and subtract 2 single digit numbers (and some 2 digit numbers) using objects and by counting on and back.
To be able to read and understand and solve a written equation.
To automatically recall number bonds for numbers 0-5 and some to 10.
To know some subtraction facts

Multiplication and division

What I learn

To know some doubles facts
To know that quantities can be distributed equally

Fractions

What I learn

To compose and decompose shapes so that children recognise that a shape can have other shapes within it, just as numbers can.

Reception

Measurement

What I learn

Using Measures:
To begin to compare, describe and solve practical problems with objects relating to size, length, weight and capacity.

Money:
To begin to recognise and know the value of different denominations of coins to £1

Time:
To sequence events in chronological order using language such as first, next, after etc...
To know the days of the week
To begin to tell the time to the hour and half past the hour

Geometry

What I learn

To 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'.
To select, rotate and manipulate shapes to develop spatial reasoning skills.
To continue, copy and create repeating patterns.
To understand and use positional language

Year One

Place Value and Counting

What I learn

Counting:
To count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
To count numbers to 100 in numerals; count in multiples of twos, fives and tens

Represent:
To identify and represent numbers using objects and pictorial representations including tens frame, place value grids and part part whole models
To read and write numbers to 100 in numerals
To read and write numbers from 1 to 20 in numerals and words

Use place value and compare:
To, given a number, recognise one more and one less and
To compare numbers using place value

Addition and subtraction

What I learn

Recall, Represent, Use:
To read, write and interpret mathematical statements involving addition and subtraction and equals signs
To represent and use number bonds and related subtraction facts within 20
To add and subtract one-digit and two-digit numbers to 20, including 0

Calculations:
To add and subtract one digit and two digit numbers to 20, including zero
To add and subtract a multiple of 10 to any two digit numbers
To add and subtract from a two digit number using a number line
To build addition and subtraction fact families

Solve Problems:
To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems

Multiplication and division

What I learn

To skip count in 2's, 5's and 10's
To multiply and divide using repeated addition and repeated subtraction
To solve one-step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with support
To build multiplication and division fact families

Mathematics
Curriculum Map

Year One

Fractions

What I learn

Recognise and Write:
To recognise the numerator as the number of parts in question and the denominator as the total number of equal parts
To recognise, find and name a half as one of two equal parts of an object, shape or quantity
To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
To recognise, find and name a third as one of three equal parts of an object, shape or quantity
To find the fraction of an object, shape or quantity

Measurement

What I learn

Using Measures:
To compare, describe and solve practical problems for:
– lengths and heights
– mass/ weight
– capacity and volume
– time

Money:
To recognise and know the value of different denominations of coins and notes
To calculate the total cost and change from a transaction

Time:
To sequence events in chronological order using language
To recognise and use language relating to dates, including days of the week, weeks, months and years
To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times

Geometry

What I learn

2-D Shapes:
To recognise and name common 2-D shapes

3-D Shapes:
To recognise and name common 3-D shapes

Position and Direction:
To describe position, direction and movement including whole, half, quarter and three-quarter turns
To describe movement using left and right or clockwise and anti-clockwise

Year Two

Place Value and Counting

What I learn

Counting:
To count in steps of 2, 5 and 10 from 0, and in tens from any number, forward and backward

Represent:
To read and write numbers to at least 100 in numerals and in words
To identify, represent and estimate numbers using different representations, including the number line

Use place value and compare:
To recognise the place value of each digit in a two-digit number
To compare and order numbers from 0 up to 100; use <, > and = signs

Problems and rounding:
To use place value and number facts to solve problems

Addition and subtraction

What I learn

Recall, Represent, Use:
To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
To show that addition of two numbers can be done in any order (commutative) and that subtraction of one number from another cannot
To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

Calculations:
To add and subtract numbers using concrete objects, pictorial representations and mentally, including:
-a two-digit number and ones
-a two-digit number and tens
-adding three one-digit numbers
To add and subtract using a formal method including regrouping and exchanging

Solve Problems:
To solve problems with addition and subtract
-using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods

Mathematics
Curriculum Map

Year Two

Multiplication and Division

What I learn

Recall, Represent, Use:
To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
To show that multiplication of two numbers can be done in any order (commutative) and that division of one number by another cannot

Calculations:
To calculate mathematical statements for multiplication and division within the multiplication tables and write them using multiplication, division and equals signs

Solve Problems:
To solve problems involving multiplication and division, using materials, arrays, mental methods, and multiplication and division facts, including problems in contexts.

Fractions

What I learn

Recognise and Write:
To recognise, find and write fractions using halves, thirds and quarters of a length, shape, set of objects or quantity
Compare:
To recognise the equivalence of 2/4 and 1/2
To compare fractions
Calculations:
To write simple fractions e.g. 1/2 of 6 = 3

Measurement

What I learn

Using Measures:
To choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

To order and compare lengths, mass, volume/capacity and record the results using >, < and =
Money:
To recognise and use symbols for pounds and pence; combine amounts to make a particular value
To find different combinations of coins that equal the same amounts of money
To solve simple problems in a practical context involving addition of money of the same unit, including giving change
Time:
To compare and sequence intervals of time
To 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
To tell the time in analogue and digital format and convert between the two
To know the number of minutes in an hour and the number of hours in a day

Mathematics
Curriculum Map

Year Two

Geometry

What I learn

2-D Shapes:
To identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
To identify 2-D shapes on the surface of 3-D shapes
To compare and sort common 2-D shapes and everyday objects

3-D Shapes:
To recognise and name common 3-D shapes
To compare and sort common 3-D shapes and everyday objects

Position and Direction:
To order and arrange combinations of mathematical objects in patterns and sequences
To use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

Statistics

What I learn

Present and Interpret:
To interpret and construct simple pictograms, tally charts, block diagrams and simple tables

Solve problems:
To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
To ask and answer questions about totalling and comparing categorical data.

Mathematics
Curriculum Map

Year Three

Place Value and Counting

What I learn

Counting:
To count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number

Represent:
To identify, represent and estimate numbers using different representations including number lines
To read and write numbers up to 1000 in numerals and in words

Use place value and compare:
To recognise the place value of each digit in a three-digit number
To compare and order numbers up to 1000

Problems and rounding:
To solve number problems and practical problems involving these ideas

Addition and subtraction

What I learn

Recall, Represent, Use:
To estimate the answer to a calculation and use inverse operations to check answers

Calculations:
To add and subtract numbers mentally, including:
–a three-digit number and ones
–a three-digit number and tens
–a three-digit number and hundreds
To find 1, 10, 100 or 1000 more or less than a given number
To add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

Solve Problems:
To solve problems including missing number problems, using number facts, place value, and more complex addition and subtraction.

Multiplication and Division

What I learn

Recall, Represent, Use:
To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
Calculations:
To write and calculate mathematical statements for multiplication and division using the multiplication tables that I know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
To use division and multiplication questions using a formal method including long division and columnar method
Solve Problems:
To solve problems including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems

Mathematics
Curriculum Map

Year Three

Fractions

What I learn

Recognise and Write:
To 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
To recognise, find and write a discrete set of objects; unit fractions and non-unit fractions with small denominators
To recognise and use fractions as numbers; unit fractions and non-unit fractions with small denominators

Compare:
To recognise and show, using diagrams, equivalent fractions with small denominators
To compare and order unit fractions with the same denominators

Calculations:
To add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)

Solve Problems:
To solve problems that involve all of the above.

Measurement

What I learn

Using Measures:
To measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
To order and compare lengths, mass, volume/capacity and record the results using >, < and =

Money:
To add and subtract amounts of money to give change, using both £ and p in practical contexts

Time:
To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
To 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
To know the number of seconds in a minute and the number of days in each month, year and leap year
To compare durations of events (e.g. to calculate the time taken by particular events or tasks)

Perimeter, Area and Volume
To measure the perimeter of simple 2-D shapes
To measure and calculate the area of simple 2-D shapes

Year Three

Geometry:

What I learn

2-D Shapes:
To identify and describe the properties of 2D shapes
To draw 2-D shapes
3-D Shapes:
To identify and describe the properties of 3D shapes
To make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
Angles and Lines:
To recognise angles as a property of shape or a description of a turn
To identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
To identify horizontal and vertical lines and pairs of perpendicular and parallel lines

Statistics

What I learn

Present and Interpret:
To interpret and present data using bar charts, pictograms, line graphs and tables

Solve Problems:
To solve one-step and two-step questions (e.g. 'How many more?' and 'How many fewer?') using information presented in scaled bar charts, pictograms, line graphs and tables

Mathematics
Curriculum Map

Year Four

Place Value and Counting

What I learn

Counting:
To count in multiples of 6, 7, 9, 25 and 1000
To count backwards through zero to include negative numbers

Represent:
To identify, represent and estimate numbers using different representations
To read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value

Use place value and compare:
To find 1000 more or less than a given number
To recognise the place value of each digit in a four-digit number
To order and compare numbers beyond 1000

Problems and rounding:
To round any number to the nearest 10, 100 or 1000
To solve number and practical problems that involve all of the above and with increasingly large positive numbers

Addition and subtraction

What I learn

Recall, Represent, Use:
To estimate and use inverse operations to check answers to a calculation

Calculations:
To add and subtract numbers with up to 4 digits using formal written methods of columnar addition and subtraction where appropriate

Solve Problems:
To solve addition and two-step problems in contexts, deciding which operations and methods to use and why

Multiplication and Division

What I learn

Recall, Represent, Use:
To recall multiplication and division facts up to 12 x 12
To 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
To recognise and use factor pairs and commutativity in mental calculations
Calculations:
To multiply two-digit and three-digit numbers by a one-digit number using formal written layout
To divide two-digit and three-digit numbers by a one-digit number using a formal method
Solve Problems:
To solve problems involving multiplying and adding, including the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems

Mathematics
Curriculum Map

Year Four

Fractions

What I learn

Recognise and Write:
To count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
To recognise mixed and improper fractions

Compare:
To recognise and show, using diagrams, families of common equivalent fractions

Calculations:
To add and subtract fractions with like and unlike denominators
To find the fraction of an amount

Solve Problems:
To solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

Decimals

What I learn

Recognise and Write:
To recognise and write decimal equivalents of any number of tenths or hundredths
To recognise and write decimal equivalents to 1/4, 1/2, 3/4

Compare:
To round decimals with one decimal place to the nearest whole number
To compare numbers with the same number of decimal places up to two decimal places

Calculations and Problems:
To find the effect of dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
To make a whole using a decimal number

Solve Problems:
To solve simple measure and money problems involving fractions and decimals to two decimal places

Measurement

What I learn

Using Measures:
To convert between different units of measure
To estimate, compare and calculate different measures

Money:
To estimate, compare and calculate different measures, including money in pounds and pence

Time:
To read, write and convert time between analogue and digital 12 and 24 hour clocks
To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Perimeter, Area and Volume:
To measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m
To find the area of rectilinear shapes by counting squares

Mathematics
Curriculum Map

Year Four

Geometry

What I learn

2-D Shapes:
To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
To identify lines of symmetry in 2-D shapes presented in different orientations

Angles and Lines:
To identify acute and obtuse angles and compare and order angles up to two right angles by size
To identify lines of symmetry in 2-D shapes presented in different orientations
To complete a simple symmetric figure with respect to a specific line of symmetry

Position and Direction:
To describe positions on a 2D grid as coordinates in the first quadrant
To describe movements between positions as translations of a given unit to the left/right and up/down
To plot specified points and draw sides to complete a given polygon

Statistics

What I learn

Present and Interpret:
To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, tables, pictograms and line graphs
To create and plot line graphs and bar charts

Solve Problems:
To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Year Five

Place Value and Counting

What I learn

Counting:
To count forwards and backwards in steps of powers of 10 for any given number up to 1 000 000
To count forwards and backwards with positive and negative whole numbers, including through zero

Represent:
To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit To read Roman numerals to 1000 and recognise years written in Roman numerals

Use place value and compare:
To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit

Problems and rounding:
To interpret negative numbers in context
To round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
To solve number problems and practical problems that involve all of the above

Addition and subtraction

What I learn

Recall, Represent, Use:
To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Calculations:
To add and subtract whole numbers with more than 4 digits using formal written methods of columnar addition and subtraction

Solve Problems:
To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Mathematics
Curriculum Map

Year Five

Multiplication and Division

What I learn

Recall, Represent, Use:
To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
To know and use the vocabulary of prime numbers, prime factors and composite numbers
To establish whether a number up to 100 is prime and recall prime numbers up to 19
To recognise and use square numbers and cube numbers, and the notation for squared and cubed

Calculations:
To 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
To multiply and divide numbers mentally drawing upon known facts
To divide numbers up to 4 digits by a one-digit number using the formal written method of short division or long division and interpret remainders appropriately for the context
To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Solve Problems:
To solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

Combined Operations:
To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

Fractions

What I learn

Recognise and Write:
To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number

Compare:
To compare and order fractions whose denominators are all multiples of the same number

Calculations:
To add and subtract fractions with the same denominator and denominators that are multiples of the same number
To multiply and divide proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Mathematics
Curriculum Map

Year Five

Decimals

What I learn

Recognise and Write:
To read and write decimal numbers as fractions (e.g. 0.71 = 71/100)
To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

Compare:
To round decimals with two decimal places to the nearest whole number and to one decimal place
To read, write, order and compare numbers with up to three decimal places

Calculations and Problems:
To find the effect of multiplying and dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
To add and subtract numbers with different decimal places

Solve Problems:
To 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
To solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25

Percentages:
To introduce percentages as a fraction out of 100
To convert and compare between fractions, decimals and percentages

Measurement

What I learn

Using Measures:
To convert between different units of metric measure
To understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
To use all four operations to solve problems involving measure using decimal notation, including scaling

Money:
To use all four operations to solve problems involving money

Time:
To solve problems involving converting between units of time
To solve time related problems by calculating the duration, start time or end time

Perimeter, Area and Volume
To measure and calculate the perimeter of composite rectilinear shapes in cm and m
To calculate and compare the area of rectangles (including squares), and including using standard unis, square centimetres and square metes and estimate the area of irregular shapes
To estimate volume and capacity

Mathematics
Curriculum Map

Year Five

Geometry:

What I learn

2-D Shapes:
To distinguish between regular and irregular polygons based on reasoning about equal sides and angles
To use the properties of rectangles to deduce related facts and find missing lengths and angles

3-D Shapes:
To identify 3-D shapes, including cubes and other cuboids, from 2-D representations

Angles and Lines:
To know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
To draw given angles and measure them in degrees
To identify:
–angles at a point and one whole turn
–angles at a point on a straight line and 1/2 a turn
–other multiples of 90 degrees

Position and Direction:
To identify, describe and represent the position of a shape following a reflection or translation, using appropriate language and know that the shape has not changed

Statistics

What I learn

Present and Interpret:
To complete, read and interpret information in graphs and tables, including timetables, bar charts and line graphs

Solve Problems:
To solve comparison, sum and difference problems using information presented in a line graph

Mathematics
Curriculum Map

Year Six

Place Value and Counting

What I learn

Represent:
To read, write, order and compare numbers to at least 10 000 000 and determine the value of each digit
To read Roman numerals to 1000 and recognise years written in Roman numerals

Use place value and compare:
To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Problems and rounding:
To round any whole number to a required degree of accuracy
To use negative numbers in context and calculate intervals across zero
To solve number problems and practical problems that involve all of the above

Addition and subtraction

What I learn

Calculations:
To perform mental calculations, including with mixed operations and large numbers
To use knowledge of the order of operations to carry out calculations involving the four operations

Solve Problems:
To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Multiplication and Division

What I learn

Recall, Represent, Use:
To identify common factors, common multiples and prime numbers
To use estimation to check answers and calculations and determine, in the context of a problem, an appropriate degree of accuracy

Calculations:
To multiply multi-digit numbers up to 4 digits by a two-digit number using the formal written method of long multiplication
To divide numbers up to 4 digits by a two-digit 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
To 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 he context
To perform mental calculations, including with mixed operations and large numbers

Solve Problems:
To solve problems involving addition, subtraction, multiplication and division

Combined Operations:
To use knowledge of the four operations to carry out calculations involving the four operations

Mathematics
Curriculum Map

Year Six

Fractions

What I learn

Compare:
To use common factors to simplify fractions; use common multiples to express fractions in the same denomination
To compare and order fractions, including fractions > 1

Calculations:
To add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
To multiply simple pairs of proper fractions, writing the answer in its simplest form
To divide proper fractions by whole numbers

Decimals

What I learn

Recognise and Write:
To identify the value of each digit in numbers given to three decimal places

Calculations and Problems:
To multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
To multiply one-digit numbers with up to two decimal places by whole numbers
To use written division mehods in cases where the answer has up to two decimal places
To solve problems which require answers to be rounded to specified degrees of accuracy

Solve Problems:
To associate a fraction with division and calculate decimal fraction equivalents for a simple fraction
To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Ratio and Proportion

What I learn

To solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facs
To solve problems involving the calculation of percentages and the use of percentages for comparison
To solve problems involving smaller shapes where the scale factor is known or can be found
To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Algebra

What I learn

To use simple formulae
To generate and describe linear number sequences
To express missing number problems algebraically
To find pairs of numbers that satisfy an equation with two unknowns
To enumerate possibilities of combinations of two variables

Mathematics
Curriculum Map

Year Six

Measurement

What I learn

Using Measures:
To solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
To 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 up to three decimal places
To convert between miles and kilometers

Time:
To 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

Perimeter, Area and Volume
To recognise that shapes with the same areas can have different perimeters and vice versa
To recognise when it is possible to uise formuae for area and volume of shapes
To calculate the area of parallelograms and triangles
To calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres and and extending to other units (e.g. mm3)

Geometry

What I learn

2-D Shapes:
To draw 2-D shapes using given dimensions and angles
To compare and classify geometric shapes based on their properties and sizes
To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
3-D Shapes:
To recognise, describe and build simple 3D shapes, including making nets
Angles and Lines:
To find unknown angles in any triangles, quadrilaterals and regular polygons
To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
Position and Direction:
To describe positions on the full coordinate grid (all four quadrants)
To draw and translate simple shapes on he coordinate plane, and reflect them in the axes

Statistics

What I learn

Present and Interpret:
To interpret and construct pie charts and line graphs and use these to solve problems

Solve Problems:
To calculate and interpret the mean as an average.