St. Matthew's C of E (Aided) Primary School

Subject Leaders Progression of skills/ knowledge

(Skills and knowledge to be taught in each year group)

Subject:

Year	Skills	Knowledge
1	**Number and Place Value** • count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number • count to and across 50, forwards and backwards, beginning with 0 or 1, or from any given number • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • read and write numbers to 10 in numerals • read and write numbers to 20 in numerals • read and write numbers to 50 in numerals • read and write numbers to 100 in numerals • count in multiples of twos • count in multiples of fives • count in multiples of tens • given a number up to 10, identify one more and one less • given a number up to 20, identify one more and one less • given a number up to 50, identify one more and one less • given a number up to 100, identify one more and one less • 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 • read and write numbers from 1 to 20 in words • count reliably well beyond 100 • count on and back in 3s from any given number to beyond 100 • say the number that is 10 more or 10 less than a number to 100 **Addition and Subtraction** • represent and use number bonds and related subtraction facts within 10 • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 10, including zero	• know the signs (<); (>) • know by heart number bonds to 10. • know by heart number bonds to 20. • know the signs (+); (-); (=) • recall and use multiplication facts for the 2 and 10 multiplication tables.

- add and subtract one-digit and two-digit numbers to 20, including zero
- add and subtract more than two one-digit and two-digit numbers to 10, including zero
- add and subtract more than two one-digit and two-digit numbers to 20, including zero
- read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9
- apply knowledge of number to solve a one-step problem involving an addition, subtraction
- add and subtract 1-digit and 2-digit numbers to 50, including zero

Multiplication and Division

- 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 facts for the 2 and 10 multiplication tables.
- apply knowledge of number to solve a one-step problem involving simple multiplication and division

Fractions

- recognise, find and name a half as one of two equal parts of an object, shape or quantity
- recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

Measurement

- compare, describe and solve practical problems involving a full range of measures:
- lengths and heights [eg long/short, longer/shorter, tall/short, double/half]
- mass/weight [eg heavy/light, heavier than, lighter than]
- capacity and volume [eg full/empty, more than, less than, half, half full, quarter]
- time [eg quicker, slower, earlier, later]
- measure and begin to record the following:
- lengths and heights
- mass/weight
- capacity and volume
- time (hours, minutes, seconds)
- recognise and know the value of different denominations of coins and notes
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- sequence events in chronological order using language [eg before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- recognise and use language relating to dates, including days of the week, weeks, months and years
- recognise all coins and notes and know their value
- use coins to pay for items bought up to £1

	• use knowledge of time to know when key periods of the day happen, eg, lunchtime, home time, etc **<u>Geometry: Properties of Shapes</u>** • recognise and name common 2-D and 3-D shapes, including: • 2-D shapes [eg rectangles (including squares), circles and triangles] • 3-D shapes [eg cuboids (including cubes), pyramids and spheres] recognise different 2D and 3D shapes in the environment **<u>Geometry: Position and Direction</u>** • describe position, direction and movement, including half, quarter and three quarter turns	
2	**<u>Number and Place Value</u>** • count in steps of 2, 3, and 5 from 0, forward and backward • count in tens from any number, forward and backward • recognise the place value of each digit in a two-digit number (tens, ones) • compare and order numbers from 0 up to 100 • identify, represent and estimate numbers using different representations, including the number line • use <, > and = signs correctly • read and write numbers to at least 100 in numerals • read and write numbers to at least 100 in words • use place value and number facts to solve problems • count reliably up to 1000 in 2s, 5s and 10s • count on and back in multiples of 4, 8, 25 and 0 and 100 from any given number to beyond 1000 **<u>Addition and Subtraction</u>** • solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently • derive and use related facts up to 100 eg 30+70 • know 10 more / less • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction cannot	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • recall and use addition and subtraction facts to 20 fluently

- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
- apply knowledge of number up to 100 to solve one-step problems involving + and -
- + and - two 2-digit and numbers to 100
- use appropriate strategy to + and - across 100

Multiplication and Division

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate and write mathematical statements for multiplication and division within the multiplication tables, using multiplication (×), division (÷) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative) and division cannot
- recognise and use inverse
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
- apply knowledge of number up to 100 to solve a one-step problem involving simple x and ÷

Fractions

- recognise, find, name and write fractions 13 , 14 , 24 and 34 of a length, shape, set of objects or quantity
- recognise equivalence of simple fractions eg 24 , 12
  add and subtract fractions with a common denominator

Measurement

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using >, < and =
- 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
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- compare and sequence intervals of time
- tell the time to five minutes, including quarter past/to the hour
- write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- know the number of minutes in an hour and the number of hours in a day
- apply knowledge of addition and subtraction to pay for items, up to £10, within a problem solving context

	• measure, compare, add and subtract using common metric measure **Geometry: Properties of Shapes** • identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [eg a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D and 3-D shapes and everyday objects **Geometry: Position and Direction** • order and arrange combinations of mathematics objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement in a straight line • distinguish between rotation as a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anticlockwise) • now about right angles and where they can be seen in the environment **Statistics** • construct simple pictograms, tally charts, block diagrams and simple tables • interpret simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data	
3	**Number and Place Value** • count from 0 in multiples of 4, 8, 50 and 100 • find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals • read and write numbers up to 1000 in words • solve number problems and practical problems involving these ideas • recognise the value of each digit in a 4-digit number and the value of a tenth • being to have an understanding about negative numbers recognising they are smaller than zero **Addition and Subtraction** • add and subtract numbers mentally, including: • a three-digit number and ones	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • know all multiplication facts up to 10 x 10 • be able to instantaneously answer questions eg how many 7s in 42?

- a three-digit number and tens
- a three-digit number and hundreds
  - add numbers with up to three digits, using formal written methods of columnar addition
  - subtract numbers with up to three digits, using formal written methods of columnar subtraction
  - estimate the answer to a calculation
  - use inverse operations to check answers
  - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
  - add and subtract numbers with any number of digits using formal written methods

Multiplication and Division

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know
- multiply two-digit numbers by one-digit numbers, using mental and progressing to formal written methods
- divide two-digit numbers by one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects
- know all multiplication facts up to 10 x 10
- be able to instantaneously answer questions eg how many 7s in 42?
- x and ÷ any 2-digit by 1-digit number, with understanding of remainder

Fractions

- as a vulgar and decimal fraction: count up and down in tenths; recognise that a tenth arises from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- begin to recognise and understand decimals in relation to measures (money, length…) and simple unit fractions
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise, find and write fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole eg 57 + 17 = 67
  know pairs of fractions that total 1
- compare and order unit fractions
- compare and order fractions with the same denominators
- solve problems that involve all of the above
- can find fractional values (from ½ to 1/10) of amounts up to 1000

	Measurement • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple 2-D shapes • add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from an analogue clock with increasing accuracy to the nearest minute • tell and write the time from a clock using Roman numerals from I to XII • tell and write the time from a clock with 12-hour and 24-hour clocks • estimate, record and compare time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours • use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight • know the number of days in each month • know the number of seconds in a minute and the number of days in each year and leap year • compare durations of events [eg to calculate the time taken by particular events or tasks] • use knowledge of number to solve problems related to money, time and measures • measure, compare, + and - more complex problems using common metric measures (different units) • can relate knowledge of time to problems related to timetables **Geometry: Properties of Shapes** • draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • recognise angles as a property of shape or a description of a turn • 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 • identify horizontal and vertical lines and pairs of perpendicular and parallel lines • know that the total internal angles of a triangle measure 180° **Statistics** • present data using bar charts, pictograms and tables • interpret and present data using bar charts, pictograms and tables • solve 1-step and 2-step questions (eg How many more/fewer?) using data presented in scaled bar charts, pictograms, tables	
4	**Number and Place Value** • count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)	

	• order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that the numeral system changed to include concept of zero and place value • use tenths, hundredths and thousandths when comparing values and solving addition and subtraction problems • relate tenths and hundredths to fractional values • round any number to 100,000 to the nearest 10, 100, 1000 or 10000 **Addition and Subtraction** • add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate • subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why • solve multi-step problems involving more than one of the operations **Multiplication and Division** • recall and use multiplication and division facts for the 6,7 and 9 multiplication tables • use place value, known and derived facts to multiply and divide mentally (eg 3 x 6 = 18 so 30 x 6 = 180) • multiply by 0 and 1; divide by 1; multiply together three numbers • recognise and use factor pairs (eg 12 x 20 is the same as 12 x 2 x 10) and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • divide two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • rapidly recall answer when multiplying and dividing a whole or decimal number by 10 • solve multi-step problems involving more than one of the operations **Fractions (including Decimals)** • recognise and show, using diagrams, families of common equivalent fractions as a vulgar and decimal fraction: count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	

- recognise and write decimal equivalents: any number of tenths or hundredths
- recognise and write decimal equivalents to 14 , 12 , 34
  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
- add and subtract fractions with same denominator
- find the effect of (ie begin to do the following) 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 (ie this means understand the concept, know vocabulary such as 'ten times smaller', and the procedure of moving digits, place holders etc)
- round decimals with one decimal place to the nearest whole number
- compare numbers with the same number of decimal places up to two decimal places
- solve simple measure and money problems involving fractions and decimals to two decimal places
- work out simple percentage values of whole numbers as is related to on-going learning in science, history and geography
- compare and add fractions whose denominations are all multiples of the same number

Measurement

- convert between different units of measure [eg kilometre to metre; hour to minute]
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- find the area of rectilinear shapes by counting squares
- estimate, compare and calculate different measures, including money in pounds and pence
- read, write and convert time between analogue and digital 12- and 24-hour clocks
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
- use knowledge of perimeter to work out perimeter of large areas around school using meters and centimetres
- use a 24-hour timetable to find out times for a journey between various places

Geometry: Properties of Shapes

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry.

Geometry: Position and Direction

- describe positions on a 2-D grid as coordinates in the first quadrant
- describe movements between positions as translations of a given unit to the left/right and up/down

	• plot specified points and draw sides to complete a given polygon • Statistics • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using data presented in bar charts, pictograms, tables and other graphs • collect own data on given project and present information in graphical formats of their choosing	
5	**<u>Number and Place Value</u>** • read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • interpret negative numbers in context • count forwards and backwards with positive and negative whole numbers, inc through zero • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1000 (M) and recognise years written in Roman numerals • have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects • use rounding as a strategy for quickly assessing what approximate answers ought to be before calculating • link working across zero for positive and negative numbers to work time between BC and AD in history **<u>Addition and Subtraction</u>** • add whole numbers with more than 4 digits, including using formal written methods (columns) • subtract whole numbers with more than 4 digits, including using formal written methods (columns • add and subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • calculate number problems algebraically eg $2x - 3 = 5$ **<u>Multiplication and Division</u>** • recall multiplication and division facts for multiplication tables up to 12×12 (aim for rapid recall within five seconds) • identify multiples and factors, including finding all factor pairs of a number • identify common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime • recall prime numbers up to 19	

	• 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 • multiply and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written method • interpret remainders appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • recognise and use square numbers and cube numbers, and notation for squared (2) and cubed (3) • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes, scaling by simple fractions and problems involving simple rates • divide whole numbers (up to 4 digits) by 2-digit numbers, using preferred method • recognise the symbol for square root (√) and work out square roots for numbers up to 100 **<u>Fractions (including Decimals and Percentages)</u>** • compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one to the other • write mathematical statements > 1 as a mixed number [eg 25 + 45 = 65 = 114] add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions by whole numbers, supported by materials and diagrams • multiply mixed numbers by whole numbers, supported by materials and diagrams • read and write decimal numbers as fractions [eg 0.71 = 71/100] recognise, use and count in thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to two decimal places • solve problems involving number up to three 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 12 , 14 , 15 , 25 , 45 and those fractions with a denominator of a multiple of 10 or 25.	

Measurement

- convert between different units of metric measure (eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- measure and calculate perimeter of composite rectilinear shapes in centimetres and metres
- 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
- estimate volume [eg using 1 cm3 blocks to build cuboids (inc cubes)] and capacity [eg using water]
- solve problems involving converting between units of time
- use all four operations to solve problems involving measure [eg length, mass, volume, money] using decimal notation, including scaling
- use knowledge of measurement to create plans of areas around school eg classroom, field, playground etc
- relate imperial measures still used regularly in our society to metric equivalents, eg miles to Km; lbs to Kg
- use a range of timetables to work out journey times on a fractional journey around the world, eg how long would it take to reach the rainforests in the Amazon

Geometry: Properties of Shapes

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations (nets and other drawings)
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees (o)
- identify:
    - angles at a point and one whole turn (total 360o)
    - angles at a point on a straight line and 12 a turn (total 180o)
    - other multiples of 90o
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles

Geometry: Position and Direction

- 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

Statistics

- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables
- collect own data on personal project and present information in formats of their choosing, charts, graphs and tables

6	**Number and Place Value** • order and compare numbers up to 10 000 000 • read and write numbers up to 10 000 000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context • calculate intervals across zero • solve number and practical problems that involve all of the above **Addition and Subtraction, Multiplication and Division** • multiply numbers up to 4 digits by a two-digit whole number using formal written method • divide numbers up to 4 digits by a two-digit whole number using formal written method • interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate • perform mental calculations, including with mixed operations and large numbers • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the four operations • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • multiply all integers, (using efficient written methods) including mixed numbers and negative numbers **Fractions (including Decimals and Percentages)** • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form eg $14 \times 12 = 18$ divide proper fractions by whole numbers eg $13 \div 2=16$ associate a fraction with division • calculate decimal fraction equivalents for a simple fraction [eg 38 =0.375] identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places	

	• solve problems which require answers to be rounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, in different contexts • compare, order, convert between fractions, decimals and percentages in contexts related to science, history, geography **<u>Ratio and Proportion</u>** • 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 [eg, of measures, and such as 15% of 360] and the use of percentages for comparison • 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 **<u>Algebra</u>** • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of 2 variables • move beyond squared and cubed numbers to calculate problems such as X x 10n where n is positive • use +, ≠, , ≤, ≥ correctly • recognise an arithmetic progression, and find the nth term **<u>Measurement</u>** • solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of 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 • convert between miles and kilometres • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • 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 [eg mm3 and km3] • use four operations, including with decimal quantities	

	• create a scaled model of a historical or geographical structure showing an acceptable degree of accuracy using known measurements • calculate costs and time involved to visit a destination in another part of the world relating to on-going learning in history or geography • **<u>Geometry: Properties of Shapes</u>** • draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or vertically opposite; find missing angles **<u>Geometry: Position and Direction</u>** • describe positions on full coordinate grid (4 quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes • Statistics • interpret pie charts and line graphs and use these to solve problems • construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average • collect own data on personal project and present information in formats of their choosing, charts, graphs and tables and answer specific questions related to their research	