MATHEMATICS
KNOWLEDGE AND SKILLS PROGRESSION

PLACE VALUE

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
I can count up and down from 0 to 100 and more, starting from any number. I can count, read and write numbers up to 100. I can count in 2s or 5s or 10s. I can tell you what is one more and one less than a given number. I can find numbers on a number line when I am solving problems using "equal to", "more than", "less than", "most" and "least".	I can count up and down in steps of 2, 3, and 5 from 0, and make jumps in tens from any number. I know what each digit means in Tens and Unit numbers such as 36. I can find and show numbers on a number line. I can order numbers up to 100 and tell you which numbers are bigger or smaller. I use the greater than, less than and equals signs in maths and know what they mean. I can read and write numbers to 100 in digits and words. I solve problems using number facts and what I	I can count in 4s, 8s, 50s and 100s. I can find 10 or 100 more or less than a given number. I know what each digit means in Hundred Tens and Unit numbers such as 438. I can compare and order numbers up to 1000. I can identify and estimate numbers in different units such as length (mm and m) and weight (g and kg). I read and write numbers up to 1000 in digits and in words. I can solve number problems, working with numbers up to 1000 and in different units of measurement.	I can count in multiples of 6, 7, 9, 25 and 1000. I can find 1000 more or less than a given number. I can count backwards below zero using negative numbers. I know what each digit means in Thousands, Hundreds Tens and Unit numbers (e.g. 4706). I can order and compare numbers above 1000. I can make estimates of a range of things - (e.g. how much water there is in a cup, how long in cm an object is, how heavy an object may be in g). I can round a number to the nearest 10, 100 or 1000. I can solve number and practical problems that	I can read, write, order and compare numbers to at least 1000000 and know the value of each digit. I count forwards or backwards in steps 10, 100, 1000, 10000 or 100000 for any given number up to 1000000. I can use negative numbers and can count backwards and forwards to and from negative numbers, including through zero. I can round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000. I can solve number problems and practical problems that involve numbers up to 1000000, negative numbers,	I can read, write, order and compare numbers to at least 10000000 and know the value of each digit. I can round a whole number to different degrees of accuracy - for example to the nearest 10 or 1000 or 100000. I understand and use negative numbers in my work and can calculate intervals across zero (e.g. how much is between -7 and +8.) I can solve number and practical problems that involve large numbers, rounding and negative numbers.

	know about the value of digits in a number.		involve rounding and ordering with increasingly large positive numbers, and exploring negative numbers. I can read Roman numerals to 100 (I to C) and know that the numeral system changed over time to include the concept of zero and place value.	rounding or jumping in steps. I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	

OPERATIONS					
YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
I can read and write numbers from 1 to 20 in numbers and words. I know and can use the maths symbols "+", "-" and "=" in a number sentence. I know my number bond facts to 20 (e.g. 18+2=20 and 20-2=18). I add and subtract numbers up to 20 (e.g. 6+6 or 14-8). I can solve some number problems (e.g. 5 = ? - 9).	I answer addition and subtraction maths problems using pictures and objects to help me work it out. I can solve addition and subtraction problems and explain how I answer it on paper or show you how I did it in my head by explaining step by step. I answer problems with addition and subtraction using my number facts to 20 and other number facts up to 100. I can add and subtract numbers (e.g. 56-9, 42+6)	I can add and subtract numbers in my head, including questions such as 543-7. I can add and subtract numbers in my head, including questions such as 543-70. I can add and subtract numbers in my head, including questions such as 543-400. I can use written methods to add or subtract three-digit numbers. I can estimate the answer to a question before I	I can add and subtract numbers with up to 4 digits using written methods (e.g. using column methods). I can estimate an answer and check my work using inverse operations. I can solve two-step addition and subtraction problems, deciding on the correct operations and explaining my chosen method. I know all my times tables up to 12.	I can add and subtract whole numbers with more than four digits using written methods such as column addition and subtraction. I can add and subtract larger numbers in my head. I round numbers to appropriate levels of accuracy to check my answers. I can solve addition and subtraction multi-step problems, deciding which operations and methods to use and why.	I can multiply four-digit numbers by a two-digit number (e.g. 6083 x 62) using the written method of long multiplication. I can divide four-digit numbers by a two-digit number using the written method of long division - and tell you the remainder as appropriate for the context. I can choose to divide four-digit numbers by a two-digit number using the written method of short division if this is possible.

I can answer multiplication or division problems using objects to see what the problem means, with the help of an adult.	using objects or pictures to help me. I can add and subtract two-digit numbers and multiples of 10 using objects or pictures to help me. I can add and subtract two-digit numbers using objects or pictures to help me. I can add and subtract numbers mentally. I can add or subtract three numbers (e.g. 2+5+9). I know that adding two numbers together can be done in any order but subtracting numbers cannot. I can do an inverse check to check my answers or solve missing number problems. I know my 2 and 5 and 10 times tables by heart and can tell whether a number is odd or even. I use multiplication (×), division (÷) and equals (=)	work it out and then use inverse operations to check the answer when I have finished. I solve problems such as missing numbers (e.g. 542 - ? = 141) using my knowledge of number facts and methods of addition and subtraction. I know my 3, 4 and 8 times tables and the related division facts. I can answer multiplication and division questions such as 16 x 5 (TU x U) or 45 divided by 9. I can solve more complex problems and missing number questions involving multiplication and division.	I know what happens when I multiply a number by 1 or by zero. I know what happens when I divide a number by 1. I can multiply three numbers together (e.g. 3 x 5 x 8). I know what factor pairs are, know I can multiply numbers in any order and use my knowledge to work out questions in my head. I can multiply a two-digit or a three-digit number by a one-digit number using written methods. I can solve a variety of maths problems (e.g. scaling problems)	I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. I can say whether a number up to 100 is prime and recall prime numbers up to 19. I can multiply four-digit numbers by a one- or two-digit number using a written method, including long multiplication for two-digit numbers. I multiply and divide numbers mentally using my times table knowledge and other number facts. I can divide four-digit numbers by a one-digit number using the written method of short division and find the remainder.	I can calculate mentally with all four operations with large numbers. I identify common factors, common multiples and prime numbers. I know that there is a specific order to use the four operations, and use it when solving problems. I can solve addition and subtraction multi-step problems, deciding where to add or subtract. I can solve problems involving addition, subtraction, multiplication and division. I can estimate my answer before I begin calculating and use an appropriate degree of accuracy.

	signs when writing out my times tables. I know that multiplying two numbers can be done in any order, but that dividing numbers cannot. I can solve multiplication and division problems using times table facts and objects or pictures to help me.			I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. I know what square numbers and cube numbers are, and the notation for squared (^{2}) and cubed (^{3}). I can solve multiplication and division problems using my knowledge of factors and multiples, squares and cubes. I can solve more difficult problems involving all four operations and a combination of these, understanding the meaning of the equals sign. I can solve multiplication and division problems including scaling by simple fractions and problems involving simple rates.	

FRACTIONS					
YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
I know what a half is and I can find half of a shape or a number of objects by	I can find 1/3 or 1/4 or 2/4 or 3/4 of a shape,	I can count up and down in tenths.	I know why a number of fractions equal each other (e.g. 3/5 and 6/10) and	I can compare and order fractions whose denominators are all	I can use common factors to simplify fractions and use common multiples to

sharing into two equal parts. I can find a quarter of a shape or a number of objects by sharing the shape or number into four equal parts.	length or number of objects. I can write simple fractions sentences such as 1/2 of 6 = 3 and know that 2/4 equals 1/2.	I know that tenths can be found by dividing an object or shape into ten equal parts or by dividing numbers by 10. I can find a fraction (e.g. 2/5 or 3/4) of a set of objects. I know how to find fractions of a number or shape (e.g. 3/5, 1/4 or 4/6). I can show that some fractions have the same value (e.g. 1/2, 3/6 and 5/10 or 1/3 and 3/9). I can add and subtract fractions with the same denominator (e.g. 5/7 + 1/7 = 6/7). I can compare and order unit fractions, and fractions with the same denominators. I solve problems that finding, ordering or comparing fractions.	are called equivalent fractions, and I can show this in drawings. I can count up and down in hundredths and know that a hundredth is made by dividing an object by one hundred and a tenth is made by dividing an object by ten. I can work out fractions of numbers (e.g. 4/7 of 49 or 3/5 of 45). I can add and subtract fractions with the same denominator. I can tell you the decimal equivalents of any number of tenths or hundredths (e.g. 7/10 = 0.7 and 43/100 = 0.43). I know what the decimal equivalents are for 1/4, 1/2 and 3/4. I can divide a one or two-digit number by 10 and 100 and tell you the value of digits in the tenths and hundredths columns. I can round decimals with one decimal place to the nearest whole number.	multiples of the same number. I can name and write equivalent fractions of a given fraction, and show these in a drawing (including tenths and hundredths). I know what mixed numbers and improper fractions are and I can convert from one to the other (e.g. 3/7 + 5/7 = 8/7 = 1 1/7) I can add and subtract fractions with the same denominator and denominators that are multiples of the same number. I can use diagrams and fraction materials to multiply proper fractions (7/10) and mixed numbers (1 7/10) by whole numbers. I can read and write decimal numbers as fractions (e.g. 0.71 = 71/100) I can recognise thousandths and know	express fractions in the same denomination. I can compare and order fractions, including fractions greater than 1. I can add and subtract fractions with different denominators and mixed numbers. I can multiply simple pair of fractions and then give the answer in its simpliest form. I can divide proper fractions by whole numbers (e.g. 1/4 ÷ 2 = 1/8) I can change a fraction into a decimal - (e.g 5/8 changes to 0.625 by dividing 1 by 8 and multiplying by 5). I can multiply and divide numbers by 10, 100 and 1000 and know the value of each digit up to three decimal places. I can multiply numbers such as 1.82 by a one-digit number (e.g. 1.82 x 6).

			I can compare numbers with up to 2 decimal places (e.g. 0.86 and 0.58) and say which is bigger. I can solve measure and money problems involving fractions and decimals to two decimal places.	how to use them with tenths, hundredths and decimals. I can round decimals with two decimal places to the nearest whole number and to one decimal place. I can read, write, order and compare numbers with up to three decimal places. I can solve problems involving numbers with up to three decimal places. I know what the per cent symbol is (%) 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. I can 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.	I use written division methods in cases where the answer has up to two decimal places. I can solve problems which include rounding to a required accuracy (e.g. the nearest 10, 100 or 10000). I know the decimal value, percentage and fraction of a range of values - such as 0.75, 75 percent and 3/4. I can solve problems about relative sizes of two quantities (ratio). I can find the percentage of an amount - (e.g. finding 15 per cent of 420). I can solve similar shape problems using scale factor. I can solve problems about unequal sharing (e.g. 'I need 6 bananas and for every banana I need 25ml of milk. How much milk do I need?').

MEASURE

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
I use words such as "tall/short", "double/half", "long/short", "longer/shorter", to describe my maths work when I am measuring. I use words such as "heavy/light", "heavier than", "lighter than" to describe my maths work when I am weighing. I use words such as "full/empty", "more than", "less than", "half", "half full" and "quarter" when working with capacity. I can solve problems involving time, (e.g. "Who is quickest?" or "What is earlier?"). I can measure the length or height of something and write down what measure. I can measure how heavy an object is and write down what I find. I can measure the capacity of jugs of water	I can choose and use the correct unit to estimate and measure length or height (m/cm); weight (kg/g); temperature (°C); or capacity (litres/ml) using the correct equipment. I can compare and order length, weight and capacity and then record the results using symbols for greater than, less than and equals. I know and use the symbols for pounds (£) and pence (p) and can add together different amounts of money, such as 187p and £2. I can find different combinations of coins that equal the same amounts of money. I can solve money problems (e.g. "How much change do I get from 50p if I buy a cake for 29p?).	I can measure and compare in these units: lengths (m/cm/mm), weight (kg/g) and capacity (l/ml). I can measure the perimeter of a 2-D shape such as a square or triangle. I can work on money problems, adding and subtracting amounts of money and working out how much change is left. I use both £ and p in my problems. I can tell and write the time from a clock with numbers or Roman numerals or using 12 and 24 hour clocks. I can tell the time accurately to the nearest minute. I can measure and record time passing in seconds, minutes and hours. I know and use vocabulary such as o'clock, a.m./p.m.,	I can convert one unit of measurement to another (e.g. kilometre to metre, hour to minute and cm to mm). I can measure and calculate the perimeter of a rectangle (including a square). I can find the area of a rectangular shape by counting the number of squares the shape takes up. I can estimate and compare the measurements of a range of measures (such as cm, km, g, litres) and money. I can read, write and convert time between clocks with hands (analogue clocks) and digital 12- and 24-hour clocks. I can convert hours to minutes, minutes to seconds, years to months and weeks to days.	I can convert between different units of metric measure (e.g. km and m; cm and m; cm and mm; g and kg; l and ml). I can change metric units to become imperial units such as inches, pounds and pints. I can calculate the perimeter of compound shapes in centimetres and metres. I can calculate the area of rectangles in square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. I can estimate volume (e.g. using 1 cm^3 blocks to build cuboids) and capacity (e.g. using water). I can solve problems involving conversion between the units of time. I can use all four operations to solve more	I solve problems involving different units of measures with three decimal places. I can convert measurements of length, weight, volume and time up to three decimal places in length (e.g. 0.44kg = 440g). I can convert between miles and kilometres. I know that shapes with the same areas can have different perimeters and vice versa. I can use formulae for area and volume of shapes. I can calculate the area of parallelograms and triangles. I can calculate the volume of cubes and cuboids using cm^3 and m^3, and extending to other units (e.g. mm^3 and km^3).

and write down what I measure. I can measure how long something takes to happen (e.g. how long it takes me to run across the playground). I know that coins and notes have different values (e.g. 1p, 5p, 20p, £1 and £5). I can put events in time order and use time words (e.g. "before", "after", "next", "first", "today", "yesterday", "morning" and "evening".) I can tell you the days of the week and I can talk about weeks, months and years and what they mean. I can tell the time to the hour and half past the hour and draw hands on a clock for these times.	I can put the length of different intervals of time in order. I can tell and write the time to five minutes, including quarter past and quarter to the hour and draw the hands on a clock face to show these times. I know there are 60 minutes in an hour and 24 hours in a day.	morning, afternoon, noon and midnight in my maths work. I know the number of seconds in a minute and the number of days in each month, year and leap year. I can calculate how long an event or task took to complete.		difficult problems which involve units of measurement, decimal numbers and scaling.	

GEOMETRY					
YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
I can name common 2-D shapes such as rectangles	I can describe the properties of some 2-D shapes, including the	I can draw 2-D shapes and make 3-D shapes using modelling materials.	I can group 2-D shapes based on their properties	I can identify 3-D shapes, including cubes and other	I can accurately draw 2-D shapes using given dimensions and angles.

(including squares), circles and triangles. I can name some 3-D shapes such as cuboids (including cubes), pyramids and spheres. I can describe my position, direction and movement, including whole turns, half turns, quarter turns and three-quarter turns.	number of sides they have and facts about the I can describe the properties of some 3-D shapes, including the number of edges, faces and vertices they have. I can tell you which 2-D shapes appear as the faces on 3-D shapes, such as triangles on a pyramid. I can compare 2-D and 3-D shapes with everyday objects around me. I can order combinations of objects in patterns and sequences. I can describe my position, direction and movement, including describing turns as quarter, half and three-quarter turns in clockwise and anti-clockwise directions.	I recognise and can describe 3-D shapes even when they have been turned about in different ways. I know an angle is used to measure how far something turns. An angle is also the point in a 2-D shape. I know what a right angle is and I know that two make a half-turn, three make three quarters of a turn and four make a complete turn. I can tell whether an angle is greater than or less than a right angle. I know when a line is horizontal or vertical or when two lines are perpendicular or parallel.	(such as the number of sides) and sizes. I can identify acute and obtuse angles and order angles by size. I can find all the lines of symmetry in 2-D shapes. I can complete a missing half of a symmetrical shape, using the position of the line of symmetry. I can find the coordinates of a point on a grid. I can move (translate) a point on a grid by jumps up or down; and left or right. I can plot points using coordinates and join up the points to create a shape.	cuboids, from 2-D drawings. I know that angles are measured in degrees and I can estimate and compare acute, obtuse and reflex angles. I can draw a given angle (e.g. 67°), and then measure them in degrees (°). I know that one whole turn - or a set of angles all around a point - measure a total of 360°. I know that a straight line - or angles that add up to a straight line - measure 180°. I can identify multiples of 90° (right angles). I can find the missing lengths and angles of a rectangle. I know regular shapes have equal sides and angles and irregular shapes do not.	I can recognise, describe and build 3-D shapes, including making nets. I can classify shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. I know the parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. I can work with angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. I can describe positions on the full coordinate grid (all four quadrants). I can draw and translate shapes using coordinates or reflect a shape on the grid.

				I can reflect or translate a shape on a grid and know the shape hasn't changed.	

STATISTICS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	I can read and construct pictograms, tally charts and tables. I can sort objects into categories and tell you how many objects are in each category and show which category has the most. I can sort objects and can answer questions about the groups of objects I have sorted.	I can answer questions about bar charts, pictograms and tables and make my own of each. I can answer maths problems (e.g. 'How many more?' and 'How many fewer?') by finding the information in bar charts, pictograms and tables.	I can use continuous and discrete data and create a bar chart or time graph. I can solve problems involving comparing, adding and finding the difference when using information in bar charts, pictograms, tables and other graphs.	I can solve problems involving comparing, adding and finding the difference when using information in line graphs. I can find the information I need from a timetable (e.g. bus, train, etc.) or large table of data.	I can use and construct pie charts and line graphs and use these to solve problems. I can calculate the mean as an average.

ALGEBRA

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
					I know how to use simple formulae (e.g. n - 10 = 2.) I can create a sequence of numbers that follow a rule. I can use a letter (e.g. n or x) to show a missing number (e.g. 12 - x = 4). I can find pairs of numbers that satisfy an

					equation with two missing numbers. I can find possible answers to missing numbers (e.g. listing the possible answers of a and b in a + 5 = b - 10).