Y4 Mathematics	TERM 1A Number: Place value		TERM 1B Number: Addition and subtraction		TERM 2A Number: Multiplication and division		TERM 2B Number: Fractions, decimals and percentages		TERM 3A Number: Fractions, decimals and percentages Measurement		TERM 3B Geometry: Properties of shape/position and Direction Statistics	
	Key knowledge	**Key skills**	**Key knowledge**	**Key skills**	**Key knowledge**	**Key skills**	**Key knowledge**	**Key skills**	**Key knowledge**	**Key skills**	**Key knowledge**	**Key skills**
	To know ten ones are called one ten. To know ten tens are called one hundred. To know ten hundreds are called one thousand. To know ten thousands are called one ten thousand. To know the value of digits becomes ten times bigger as digits move to the left. To know the value of digits become ten times smaller as digits move to the right. To know the value of a digit relies on its place in the number. To know negative numbers are below zero. To know negative numbers are less than zero. To know positive numbers are above zero. To know positive numbers are greater than zero. To know zero is neither positive or negative. To know when rounding to the nearest ten, the ones digit is the digit to consider. If it is four or less, we round down to the previous multiple of 10. If it is five or more we round up to the next multiple of 10. To know when rounding to the nearest hundred, the tens digit is the digit to consider. If it is four or less, we round down to the previous multiple	To be able to count in multiples of 3, 4, 6, 7, 8, 9, 25 and 1000. To be able to find 1000 more or less than a given number. To be able to count backwards through zero to include negative numbers. To be able to recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). To be able to order and compare numbers beyond 1000. To be able to identify, represent and estimate numbers using different representations. To be able to round any number to the nearest 10, 100 or 1000. To be able to solve number and practical problems that involve all of the above and with increasingly large positive numbers. To be able to read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. To be able to divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	To know addition is commutative; subtraction is not. To know the language of addition: addend plus addend is equivalent to sum/total. To know the whole can be found by adding the parts. To know when the whole and one of the parts is known, the other part can be worked out. To know the language of subtraction: minuend subtract subtrahend is equivalent to difference. To know that if 3 ones plus 4 ones is 7 ones, then 3 tens plus 4 tens is 7 tens; 3 hundreds plus 4 hundreds is 7 hundreds etc. To know we exchange when subtracting using a vertical algorithm; one ten can be exchanged for ten ones; one hundred can be exchanged for ten tens; one thousand can be exchanged for ten hundreds. To know we regroup when adding using a vertical algorithm; fourteen ones can be regrouped as one ten and four ones. To know when using a vertical algorithm for addition and subtraction we start with the lowest value digit on the right.	To be able to add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. To be able to estimate and use inverse operations to check answers to a calculation. To be able to solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	To know multiplication can be seen as repeated addition. To know division can be seen as repeated subtraction. To know a multiple of a number is the result of multiplying that number with a whole number. To know a factor of a number is any whole number that divides into it exactly. To know a product is the result of the multiplication of two or more numbers, quantities, etc. To know the multiplicand is a quantity which is to be multiplied by another (the multiplier). To know a divisor is a number that divides another number either completely or with a remainder. To know the language of division: dividend ÷ divisor = quotient. To know the language of multiplication: • Factor x factor = product. • Multiplicand (group size) x multiplier (number of groups) = product.	To be able to recall multiplication and division facts for multiplication tables up to 12 × 12. To be able to use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. To be able to recognise and use factor pairs and commutativity in mental calculations. To be able to multiply two-digit and three-digit numbers by a one-digit number using formal written layout. To be able to solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	To know when a whole is divided into equal parts each part is a fraction of the whole. To know a fraction can be expressed as one number written above another. To know the bottom part of the fraction is the denominator. This represents the total number of equal parts. To know the numerator is the top part of the fraction; this represents the number of parts being considered. To know equivalent fractions refer to the same proportion of the whole but are written in different ways. To know a unit fraction has a numerator of one. To know a proper fraction is less than one whole and has a numerator that is lower than the denominator. To know an improper faction is more than one; the numerator is higher than the denominator.	To be able to recognise and show, using diagrams, families of common equivalent fractions. To be able to count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. To be able 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. To be able to add and subtract fractions with the same denominator.	To know a decimal is made of whole numbers and parts of whole numbers, separated by a dot called a decimal point. To know ten tenths is equivalent to one whole. To know ten one hundredths is equivalent to one tenth. To know one hundred hundredths is equivalent to one whole To know a digit's position after the decimal point is its place. To know: 1 cm = 10 mm 1 m = 100 cm 1 km = 1000 m 1 litre = 1000 millilitres 1 kilogram = 1000 grames. To know the distance around the edge of a shape is its perimeter. To know to find the perimeter of a polygon, add together the lengths of all the sides. To know the area of a 2D shape is the space within its perimeter. To know a day is the amount of time it takes the Earth to spin once on its axis. To know this period is divided into 24 hours which can be broken down into smaller units: minutes and seconds. These are the units used in telling the time. To know there are 60 minutes in one hour. To know there are 60 seconds in one minute.	To be able to recognise and write decimal equivalents of any number of tenths or hundredths. To be able to recognise and write decimal equivalents to ¼, 1/2, ¾. To be able 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 units, tenths and hundredths. To be able to round decimals with one decimal place to the nearest whole number. To be able to compare numbers with the same number of decimal places up to two decimal places. To be able to convert between different units of measure (for example, kilometre to metre; hour to minute). To be able to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. To be able to find the area of rectilinear shapes by counting squares. To be able to solve simple measure and money problems involving fractions and decimals to two decimal places. To be able to estimate, compare and calculate different measures, including money in pounds and pence. To be able to read, write and convert time between analogue and	To know you can record information in a tally chart or table and present it in a graph. To know presenting data in a graph makes the data easier to interpret. To know a bar chart uses vertical or horizontal bars of equal width to show frequency of a distribution. To know a pictogram is a chart on which pictures show the frequency of a distribution. A pictogram includes a title and a key, explaining what the pictures mean. To know a distance-time graph shows how far an object has travelled in a given time. To know an angle is formed whenever two lines meet at a point. The angle is measured by the amount of turn that one line must travel about this point to arrive at the position of the other line. To know angles are measured in degrees. To know there are several types of angles, classified by their size. To know a right angle is a quarter of a full turn and equal to 90°. To know lines that meet at a right angle are described as perpendicular. To know a straight angle is half a full turn and equal to 180°.	To be able to interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. To be able to solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs To be able to compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. To be able to identify acute and obtuse angles and compare and order angles up to 2 right angles by size. To be able to identify lines of symmetry in 2D shapes presented in different orientations. To be able to complete a simple symmetric figure with respect to a specific line of symmetry. To be able to describe positions on a 2D grid as coordinates in the first quadrant. To be able to describe movements between positions as translations of a given unit to the left/right and up/down. To be able to plot specified points and draw sides to complete a given polygon. .

	of 100. If it is five or more we round up to the next multiple of 100. To know when rounding to the nearest thousand, the hundreds digit is the one to consider. If it is four or less, we round down to the previous multiple of thousand. If it is five or more we round up to the next multiple of thousand. To know values of Roman numerals up to 100: I = 1; V = 5; X = 10; L = 50; C = 100. To know we can partition 4-digit numbers into thousands, hundreds, tens and ones. To know 100 and 1000 can be divided into two, four, five and ten equal parts and these units are used in graphing and measure contexts.								To know the 12-hour clock is a time system in which the hours in a day are broken down into two groups of 12 hours. To know the 24-hour clock is a time system in which the 24 hours of the day are not expressed as am and pm but are numbered straight through from 0 – 23.	digital 12- and 24-hour clocks. To be able to solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.	To know an acute angle is any angle smaller than a right angle. To know an obtuse angle is an angle greater than a right angle but smaller than a straight angle. To know a polygon is a shape formed from three or more points joined by three or more straight lines. The points are known as vertices (each point is a vertex) and the lines are called sides To know a regular polygon has equal sides and equal interior angles. An irregular polygon does not. To know a shape has symmetry if you can halve it or turn it so that it fits exactly onto itself. To know a quadrilateral is a four-sided polygon, having four sides and four corners. To know a translation is where an object is moved to a new position without being turned or reflected. The translated image is the same size and shape as the original object. To know on a single quadrant grid, when reading right and up from the origin, the coordinates are positive numbers.	
	Key vocabulary (tier 2) digit greater than hundreds less than negative number ones order partition place value roman numeral round rounded to tens zero	**Key vocabulary (tier 3)**	**Key vocabulary (tier 2)** add altogether column addition column subtraction difference estimate exchange inverse operation less minus more number facts plus solve problems sum take away total	**Key vocabulary (tier 3)**	**Key vocabulary (tier 2)** divide dividend divisor factor groups of lots of multiple multiplicand multiplier multiply product quotient remainder share times	**Key vocabulary (tier 3)**	**Key vocabulary (tier 2)** denominator eighths elevenths equivalent fifths halves ninths non-unit fraction numerator quantities quarters sevenths sixths tenths thirds twelfths unit fraction whole	**Key vocabulary (tier 3)**	**Key vocabulary (tier 2)** 12-hour time 24-hour am analogue area centimetres decimal equivalents decimal hundredths decimal point decimal tenths digital distance half past hours hundredths kilometres length metres	**Key vocabulary (tier 3)**	**Key vocabulary (tier 2)** acute bar chart comparison continuous data coordinate diagonal difference discrete data equilateral frequency table horizontal interpret isosceles line of symmetry mirror line obtuse parallel parallelogram	**Key vocabulary (tier 3)**

									midday midnight millimetres minutes noon o'clock part-whole model pence perimeter place value pm pounds quarter past quarter to rectilinear Roman numerals rounding seconds squares tenths width		perpendicular pictogram polygon quadrant quadrilateral reflection rhombus right angle angle scalene sum time graph translation trapezium two-dimensional vertex vertical vertices x-axis y-axis	