Bidford on Avon Primary School Mathematics Key Objectives (Minimum end of year expectations)

	Rec	Y1	Y2	Y3	Y4	Y5	Y6
Counting & ordering	Count reliably to 20. Order numbers 1 – 20.	Count to & across 100, forwards & backwards from any number.	Compare & order numbers up to 100 and use < > =.	Compare & order numbers up to 1,000.	Compare & order numbers beyond 1,000. Compare & order numbers with up to 2 decimal places. Read Roman numerals to 100.	Count forwards & backward with positive & negative numbers through zero. Count forwards/backwards in steps of powers of 10 for any given number up to 1,000,000. Read Roman numerals to 1,000.	Use negative numbers in context & calculate intervals across zero. Compare & order numbers up to 10,000,000.
Numbers & more/less	Say 1 more/1 less to 20.	Read & write numbers to 20 in numerals & words. Read & write numbers to 100 in numerals. Say 1 more/1 less to 100	Read & write all numbers to 100 in digits & words. Say 10 more/less than any number to 100.	Read & write all numbers to 1,000 in digits & words. Find 10 or 100 more/less than a given number.	Find 1,000 more/less than a given number.		Solve number and practical problems that involve all other number and place value objectives
Tables & multiples		Count in multiples of 1, 2, 5 & 10.	Count in steps of 2, 3 & 5 from any number up to 100 and in 10s from any number (forward/backward). Recall & use multiplication & division facts for 2, 5 & 10 tables.	Count from 0 in multiples of 4, 8, 50 & 100. Recall & use multiplication & division facts for 3, 4, 8 tables.	Count in multiples of 6, 7, 9, 25 & 1000. Recall & use multiplication & division facts all tables to 12x12.	Identify factors, common multiples, multiples, prime numbers up to 19 and prime factors Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Identify common factors, common multiples & prime numbers.
Bonds & Facts		Use bonds & subtraction facts to 20.	Recall & use +/- facts to 20. Derive & use related facts to 100.			Recall prime numbers up to 19. Recognise and use square numbers and cube numbers and the notation for squared (^{2}) and cubed (^{3})	
Place value & rounding			Recognise PV of any 2-digit number.	Recognise PV of any 3-digit number.	Recognise PV of any 4-digit number. Round any number to the nearest 10, 100 or 1000. Round decimals with 1dp to nearest whole number.	Recognise PV of any number up to 1,000,000. Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 or 100000. Round decimals with 2dp to nearest whole number & 1dp.	Round any whole number to a required degree of accuracy. Identify value of each digit to 3dp.
Calculations +/-	Add & subtract two single digit numbers. Count on/back to find the answer.	Add & subtract: o 1 digit & 2 digit numbers to 20, including zero. Solve a one-step problem involving addition and subtraction, using concrete objects, pictures	Add & subtract: o 2-digit nos & ones o 2-digit nos & tens o Two 2-digit nos o Three 1-digit nos	Add & subtract: o 3-digit nos & ones o 3-digit nos & tens o 3-digit nos & hundreds Add & subtract: o Numbers with up to 3-digits using written columnar method. Estimate and use inverse to check. Solve problems including missing numbers, number facts, place value and more complex addition/ subtraction	Add & subtract: o Numbers with up to 4-digits using written columnar method. o Numbers with up to 1dp. Estimate and use inverse to check. Solve addition and subtraction two-step problems in context and solve problems involving multiplication and division	Add & subtract: o Numbers with more than 4-digits using formal written method. o Numbers with up to 2dp. Use rounding to check answers.	Use knowledge of order of operations to carry out calculations involving 4 operations. Solve number and practical problems that involve all other number and place value objectives Use estimation to check answers.
Calculations x/÷		Solve one-step multiplication & division using objects, pictorial representations and arrays.	Calculate & write multiplication & division calculations using multiplication tables. Write & recognise & use inverse. Solve problems involving multiplication and division	Multiply: o 2-digit by 1-digit	Multiply: o 2-digit by 1-digit o 3-digit by 1-digit Solve multiplication and division two-step problems in context Solve problems involving multiplication and division using their knowledge of factors, multiples, squares and cubes	Multiply: o 4-digits by 1-digit/ 2-digit Divide: o Up to 4-digits by 1-digit Multiply & divide: o Whole numbers & decimals by 10, 100 & 1000	Multiply: o 4-digit by 2-digit Divide: o 4-digit by 2-digit Solve multiplication and division multi-step problems in contexts, deciding which operations and methods to use and why.
Fractions & percentages		Recognise half and quarter of object, shape or quantity.	Recognise, find, name & write 1/3; 1/4; 2/4; 3/4. Recognise equivalence of simple fractions. Write simple fractions ½ of 6 = 3	Count up/down in tenths. Compare & order fractions with same denominator. +/- fractions with same denominator within one whole.	Count up/down in hundredths. Recognise & write equivalent fractions +/- fractions with same denominator. Compare numbers with the same number of decimal places up to 2 decimal places Divide a 1 or 2-digit number by 10 or 100 identifying the value of the digits in the answer as units, tenths and hundredths Solve simple measures and money problems involving fractions and decimals to 2 decimal places	Recognise & use thousandths. Recognise mixed numbers & improper fractions & convert from one to another. Multiply proper fractions & mixed numbers by whole numbers. Identify and write equivalent fractions. Recognise mixed numbers and improper fractions and convert from one to the other Read and write decimal numbers as fractions, for example, 0.47 = 47/100	Add & subtract fractions with different denominators & mixed numbers. Multiply simple pairs of proper fractions, writing the answer in the simplest form. Divide proper fractions by whole numbers. Associate a fraction with division to calculate decimal fraction equivalents, for simple fractions. Calculate % of whole number. Solve problems involving the calculation of percentages of whole

						Recognise the per cent symbol (%) and understand per cent relates to number of parts per hundred Write percentages as a fraction with denominator hundred, and as a decimal fraction	numbers or measures such as 15% of 360 and the use of percentages for comparison.	
Measure		Compare, describe, measure and solve practical problems for length, weight, height, mass, capacity, volume and time Sequence events in chronological order. Use language of day, week, month and year. Tell time to hour & half past.	Choose and use appropriate standard units to estimate and measure length and height (m/cm); mass (kg/g); temperature and capacity (l/ml) Tell time to five minutes, including quarter past/to. Know the number of minutes in an hour and hours in a day Recognise and use the symbols £ and p - use different coins to make the same amount; combine amounts to make a value Read scales in divisions of 1,2,5 and 10 in practical situations	Tell time using 12 and 24 hour clocks; and using Roman numerals. Tell time to nearest minute. Know number of days in each month and number of seconds in a minute. Know there are 100cm in a metre; 10cm in a cm; use a ruler to measure lines.	Read, write & convert time between analogue & digital 12 & 24 hour clocks. Solve problems involving converting between units of time and measure	Solve time problems using timetables and converting between different units of time. Convert between different units of measure: cm to m, g to k, hour to minute. Measure and calculate the perimeter of a rectilinear figure in centimetres and metres/ area by counting squares Calculate and compare the area of squares and rectangles including using standard units (cm² and m²) and estimate the area of irregular shapes	Recognise that shapes with the same areas can have different perimeters and vice versa. Calculate the area of parallelograms and triangles.	
Geometry		Recognise and name the 2D shapes: circle, triangle, square and rectangle Recognise and name the 3D shapes: cube, sphere, cuboid, pyramid Describe whole, half, quarter and three quarter turns	Recognise and name: triangles, rectangles, squares, circles, cuboids, cubes, pyramids, spheres Describe the properties of 2D and 3D shapes to include: edges, vertices and faces; number of sides and line symmetry Describe position, direction and movement – right angle; half and up to three quarter turns (clockwise & anticlockwise)	Identify right angles; compare other angles to being greater or smaller than a right angle Recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 a complete turn Identify horizontal and vertical lines and pairs of perpendicular and parallel lines Recognise 3D shapes in different orientations and describe them Measure the perimeter of a simple 2D shape.	Compare and classify geometrical shapes, including quadrilaterals and triangles, based on their properties and sizes Identify lines of symmetry in 2-D shapes presented in different orientations. 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.	Identify 3D shapes, including cubes and other cuboids from 2D representations Identify acute and obtuse angles and compare and order angles up to two right angles by size Draw given angles and measure them in degrees (º) Identify: angles at a point and one whole turn (total 360?); angles at a point on a straight line and ½ a turn (total 180); other multiples of 90. 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.	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	
Statistics			Interpret and construct simple pictograms, tally charts, block diagrams and tables – ask and answer questions about them	Solve one-step and two step problems using information presented in scaled bar charts, pictograms and tables Present data accurately in scaled bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables Solve comparison, sum and difference problems using information presented in a line graph	Calculate and interpret the mean as an average	
Ratio and proportion							Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	
Algebra							Express missing number problems algebraically and use simple formulae. Find pairs of numbers that satisfy number sentences with two unknowns.	