Summary of 2014 NC objectives

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number – number & place value						
1 - Counting	**1a** - Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number **1b** - Count in multiples of twos, fives and tens	**1a** - Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	**1a** - Count from 0 in multiples of 4, 8, 50 and 100 **1b** - Count up and down in tenths	**1a** - Count in multiples of 6, 7, 9, 25 and 1000 **1b** - Count backwards through zero to include negative numbers **1c** - Count up and down in hundredths	**1a** - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Count forwards and backwards in decimal steps	**1a** - Count forwards or backwards in steps of integers, decimals or powers of 10 for any number
2 - Place Value	**2a** Read and write numbers to 100 in numerals **2b** Read and write numbers from 1 to 20 in numerals and words *Begin to recognise the place value of numbers beyond 20 (tens and ones)*	**2a** Read and write numbers to at least 100 in numerals and in words **2b** Recognise the place value of each digit in a two-digit number (tens, ones) *Partition numbers in different ways (for example, 23 = 20 +3 and 23 = 10 + 13)* **2c** Identify, represent and estimate numbers using different representations, including the number line	**2a** - Read and write numbers up to 1000 in numerals and in words **2b** - Read and write numbers with one decimal place **2c** - Recognise the place value of each digit in a three-digit number (hundreds, tens, ones **2d** - Identify the value of each digit to one decimal place **2e** - Partition numbers in different ways (for example, 146 = 100 + 40 + 6 & 146 = 130 + 16) **2f** - Identify, represent and estimate numbers using different representations, including the number line	**2a** - Read and write numbers to at least 10 000 **2b** - Read and write numbers with up to two decimal places **2c -** Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) **2d -** Identify the value of each digit to two decimal places **2e -** Partition numbers in different ways (for example, 2.3 = 2 + 0.3 and 2.3 = 1 + 1.3) **2f -** Identify, represent and estimate numbers using different representations, including the number line	**2a -** Read and write numbers to at least 1 000 000 **2b -** Read and write numbers with up to three decimal places **2c -** Determine the value of each digit in numbers to at least 1 000 000 **2d -** Identify the value of each digit to three decimal places **2e -** Identify, represent and estimate numbers using the number line	**2a** Read and write numbers up to 10 000 000 **2b** Determine the value of each digit in numbers up to 10 000 000 **2c** Identify the value of each digit to three decimal places *Identify, represent and estimate numbers using the number line*
3. Comparing & ordering	**3a** Use the language of: equal to, more than, less than (fewer), most, least **3b** Given a number, identify one more and one less	**3a** Compare and order numbers from 0 up to 100; use <, > and = signs **3b** Find 1 or 10 more or less than a given number	**3a -** Compare and order numbers up to 1000 **3b -** Compare and order numbers with one decimal place **3c -** Find 1, 10 or 100 more or less than a given number	**3a -** Order and compare numbers beyond 1000 **3b -** Order and compare numbers with the same number of decimal places up to two decimal places **3c -** Find 0.1, 1, 10, 100 or 1000 more or less than a given number	**3a -** Order and compare numbers to at least 1 000 000 **3b -** Order and compare numbers with up to three decimal places **3c -** Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number	**3a** Order and compare numbers up to 10 000 000 **3b** Order and compare numbers including integers, decimals and negative numbers **3c** Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more or less than a given number
4. Rounding, approximation & estimation		**4a** Round numbers to at least 100 to the nearest 10	**4a -** Round numbers to at least 1000 to the nearest 10 or 100	**4a** - Round any number to the nearest 10, 100 or 1000 **4b -** Round decimals with one decimal place to the nearest whole number	**4a -** Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 **4b -** Round decimals with two decimal places to the nearest whole number and to one decimal place	**4a** Round any whole number to a required degree of accuracy *Round decimals with three decimal places to the nearest whole number or one or two decimal places*

5. Multiplying by powers of ten		*Understand the connection between the 10 multiplication table and place value*	**5a -** Find the effect of multiplying a one- or two-digit number by 10 and 100, identify the value of the digits in the answer	**5a -** 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	**5a -** Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	**5a** Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
6. Negative numbers				**6a -** Count backwards through zero to include negative numbers (see counting)	**6a -** Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero	**6a** Use negative numbers in context, and calculate intervals across zero
7. Sequences and patterns	*Recognise and create repeating patterns with numbers, objects and shapes* *Identify odd and even numbers linked to counting in twos from 0 and 1*	*Describe and extend simple sequences involving counting on or back in different steps*	**7a -** Describe and extend number sequences involving counting on or back in different steps	**7a -** Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps	**7a -** Describe and extend number sequences including those with multiplication and division steps and those where the step size is a decimal	*Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal*
8. Roman numerals			**8a -** Read Roman numerals from I to XII (see time)	**8a -** 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	**8a -** Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	
9. Solving number problems	*Solve problems and practical problems involving all of the above*	**9a** Use place value and number facts to solve problems	**9a -** Solve number problems and practical problems involving these ideas	**9a -** Solve number and practical problems that involve all of the above and with increasingly large positive numbers	**9a -** Solve number problems and practical problems that involve all of the above	**9a** Solve number and practical problems that involve all of the above
Number – addition & subtraction						
10.Understanding addition & subtraction	**10a** Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	*Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting)* **10a** Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot *Understand subtraction as take away and difference (how many more, how many less/fewer)*	**10a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **10b -** Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context	**10a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	**10a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)	**10a** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
12.Addition & subtraction facts	**12a** Represent and use number bonds and related subtraction facts within 20	**12a** Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 *Recall and use number*	**12a -** Recall and use addition and subtraction facts for 100 (multiples of 5 and 10) **12b -** Derive and use	**12a -** Recall and use addition and subtraction facts for 100 **12b -** Recall and use addition and subtraction	**12a -** Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)	**12a** Recall and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)

		bonds *for multiples of 5 totalling 60* *(to support telling time to nearest 5 minutes)*	addition and subtraction facts for 100 **12c -** Derive and use addition and subtraction facts for multiples of 100 totalling 1000	facts for multiples of 100 totalling 1000 **12c -** Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)	**12b -** Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)	
13.Mental methods	*Add and subtract one-digit and two-digit numbers to 20, including zero (using concrete objects and pictorial representations)*	*Select a mental strategy appropriate for the numbers involved in the calculation* **13a** 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	**13a -** Select a mental strategy appropriate for the numbers involved in the calculation **13b -** Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds	**13a -** Select a mental strategy appropriate for the numbers involved in the calculation **13b -** Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place	**13a -** Select a mental strategy appropriate for the numbers involved in the calculation **13b -** Add and subtract numbers mentally with increasingly large numbers and decimals to two decimal places	*Select a mental strategy appropriate for the numbers involved in the calculation* **13a** Perform mental calculations, including with mixed operations and large numbers and decimals
14. Written methods	**Written methods are informal at this stage – see mental methods for expectation of calculations*	**Written methods are informal at this stage – see mental methods for expectation of calculations*	**14a -** Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	**14a -** Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate	**14a -** Add and subtract whole numbers with more than 4 digits and decimals with two decimal places, including using formal written methods (columnar addition and subtraction)	*Add and subtract whole numbers and decimals using* *formal written methods (columnar addition and subtraction)*
15. Estimating & checking calculations		**15a** Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	**15a -** Estimate the answer to a calculation and use inverse operations to check answers	**15a -** Estimate and use inverse operations to check answers to a calculation	**15a -** Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	**15a** Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
16. Order of operations						**16a** Use their knowledge of the order of operations to carry out calculations involving the four operations
17. Solving addition & subtraction problems including those with missing numbers	**17a** Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9	**17a** Solve problems with addition and subtraction including those with missing numbers: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods	**17a -** Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	**17a -** Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **17b -** Solve addition and subtraction problems involving missing numbers	**17a -** Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **17b -** Solve addition and subtraction problems involving missing numbers	**17a** Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **17b** Solve problems involving addition, subtraction, multiplication and division, including those with missing numbers

Number – Multiplication & division						
18. Understanding multiplication & division		**18a** Understand multiplication as repeated addition **18b** Understand division as sharing and grouping and that a division calculation can have a remainder **18c** Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	**18a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) **18b -** Understand that division is the inverse of multiplication and vice versa **18c -** Understand how multiplication and division statements can be represented using arrays **18d -** Understand division as sharing and grouping and use each appropriately	**18a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) **18b -** Recognise and use factor pairs and commutativity in mental calculations	**18a -** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) **18b -** Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	**18a** Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)
19 Multiplication & division facts	*Recall and use doubles of all numbers to 10 and corresponding halves*	**19a** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers **19b**Derive and use doubles of simple two-digit numbers (numbers in which the ones total less than 10) **19b** Derive and use halves of simple two-digit even numbers (numbers in which the tens are even)	**19a -** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables **19b -** Derive and use doubles of all numbers to 100 and corresponding halves Derive and use doubles of all multiples of 50 to 500	**19a -** Recall multiplication and division facts for multiplication tables up to 12 x 12 **19b -** Use partitioning to double or halve any number, including decimals to one decimal place	**19a -** Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers **19b -** Establish whether a number up to 100 is prime and recall prime numbers up to 19 **19c -** Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) **19d -** Use partitioning to double or halve any number, including decimals to two decimal places	**19a** Identify common factors, common multiples and prime numbers *Use partitioning to double or halve any number*
20. Mental methods		**20a** Calculate mathematical statements for multiplication (using repeated addition) and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	**20a -** Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods	**20a -** 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	**20a -** Multiply and divide numbers mentally drawing upon known facts **20b -** Solve problems involving multiplication and division including using their knowledge of actors and multiples, squares and cubes	**20a** Perform mental calculations, including with mixed operations and large numbers

21 Written methods	**Written methods are informal at this stage – seemental methods for expectation of calculations*	**Written methods are informal at this stage – see mental methods for expectation of calculations*	**21a -** Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, progressing to formal written methods **21b -** Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, progressing to formal written methods	**21a -** Multiply two-digit and three-digit numbers by a one-digit number using formal written layout **21b -** Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	**21a -** 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 **21b -** Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	*Add and subtract whole numbers and decimals using formal written methods (columnar addition and subtraction)*
22 Estimating and checking calculations			*Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	*Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	*Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy*	**22a** Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
23 order of operations						**23a** Use their knowledge of the order of operations to carry out calculations involving the four operations
24. Solving multiplication & division problems including those with missing numbers	**24a** 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	**24a** Solve problems involving multiplication and division (including those with remainders), using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	**24a** Solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	**24a** Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including interpreting remainders), integer scaling problems and harder correspondence problems such as n objects are connected to m objects	**24a** 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 scaling by simple fractions and problems involving simple rates	**24a** Solve problems involving addition, subtraction, multiplication and division
Numbers, fractions including decimals & percentages						
25 Understanding fractions	*Understand that a fraction can describe part of a whole Understand that a unit fraction represents one equal part of a whole*	*Understand and use the terms numerator and denominator Understand that a fraction can describe part of a set Understand that the larger the denominator is, the more pieces it is split into and therefore the smaller each part will be*	**25a -** Show practically or pictorially that a fraction is one whole number divided by another (for example, 3 quarters can be interpreted as 3 ÷ 4) **25b -** Understand that finding a fraction of an amount relates to division	**25a -** Understand that a fraction is one whole number divided by another (for example, 3 quarters can be interpreted as 3 ÷ 4)		

26 Fractions of objects, shapes & quantities	**26a** Recognise, find and name a half as one of two equal parts of an object, shape or quantity (including measure) Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (including measure)	**26a** Recognise, find, name and write fractions 1/3, ¼ 2/4 & ¾ and of a length, shape, set of objects or quantity	**26a -** Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators **26b -** Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators **26c -** Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	**2a -** Recognise, find and write fractions of a discret6e set of objects including those with a range of numerators and denominators **26b -** Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten	**26a -** Recognise mixed numbers and improper fractions and convert from one form to the other **26b -** Read and write decimal numbers as fractions (e.g. 0.71 = 71 over 100)	
27 Counting, comparing & ordering fractions		**27a** Count on and back in steps of ¼ and ½	**27a -** Count on and back in steps of halves, quarters and thirds **27b -** Compare and order unit fractions and fractions with the same denominators (including on a number line)	**27a -** Count on and back in steps of unit fractions **27b -** Compare and order unit fractions and fractions with the same denominators (including on a number line) (continued from Year 3)	**27 a -** Count on and back in mixed number steps such as 1 ½ **27b -** Compare and order fractions whose denominators are all multiples of the same number (including on a number line)	**27a** Compare and order fractions, including fractions >1 (including on a number line)
28 Equivalence		**28a** Write simple fractions for example, of ½ of 6 = 3 and recognise the equivalence of 2/4 and 1/4	**28a -**Recognise and show, using diagrams, equivalent fractions with small denominators	**28a -** Recognise and show, using diagrams, families of common equivalent fractions**28b -** Recognise and write decimal equivalents of any number of tenths or hundredths **28c -** Recognise and write decimal equivalents to 0ne quarter, a half and three quarters	**28a -** Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths **28b -** Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	**28a** Use common factors to simplify fractions; use common multiples to express fractions in the same denomination **28b** Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts **28c** Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g 3/8)
29 Counting with fractions			**29a -** Add and subtract fractions with the same denominator within one whole (using diagrams) (for example, 5/7 + 1/7 = 6/7	**29a -** Add and subtract fractions with the same denominator (using diagrams)	**29a -** Add and subtract fractions with the same denominator and denominators that are multiples of the same number (using diagrams) **29b -** Write mathematical statements less than 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 1 and 1/5) **29c -** Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	**29a** Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions **29b** Multiply simple pairs of proper fractions, writing the answer in its simplest form (using diagrams) (e.g. ¼ x ½ = 1/8) **29c** Divide proper fractions by whole numbers (using diagrams) (e.g. 1/3 ÷ 2 = 1/6

30 Percentages					**30a -** 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	*Find simple percentages of Amounts*
31 Solving problems involving fractions, decimals & percentages			**31a -** Solve problems that involve all of the above	**31a -** 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 **31b -** Solve simple measure and money problems involving fractions and decimals to two decimal places	**31a -** Solve problems involving Fractions **31b -** Solve problems involving number up to three decimal Places **31c -** Solve problems which require knowing percentage and decimal equivalents of ½ ¼ 1/5 2/5 4/5 and those with a denominator of a multiple of 10 or 25	*Solve problems involving fractions* **31a** Solve problems which require answers to be rounded to specified degrees of accuracy **31b** Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison
Ratio & proportion						
32 Ratio & proportion						**32a** Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts **32b** Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples **32c** Solve problems involving similar shapes where the scale factor is known or can be found
Algebra						
33 Algebra						**33a** Express missing number problems algebraically **33b** Use simple formulae **33c** Generate and describe linear number sequences **33d** Find pairs of numbers that satisfy an equation with two unknowns **33e** Enumerate possibilities of combinations of two variables

Measurements - length / height perimeter, area & mass / weight						
34 Length / height	**34a** Measure and begin to record lengths and heights, *using non-standard and then manageable standard units (m and cm) within children's range of counting competence* **34b** Compare and describe lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)	**34a** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit using rulers **34b**Compare and order lengths and record the results using >, < and =	**34a -** Measure, add and subtract lengths (m/cm/mm) **34b -** Compare lengths (m/cm/mm)	**34a -** Estimate and calculate length **34b -** Compare lengths	**34a -** Use, read and write standard units of length to a suitable degree of accuracy **34b -** Understand and use approximate equivalences between metric and common imperial units such as inches	**34a** Use, read and write standard units of length using decimal notation to three decimal places
35 Perimeter			**35a -** Understand that perimeter is a measure of distance around the boundary of a shape **35b -** Measure the perimeter of simple 2-D shapes	**35a -** Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	**35a -** Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	**35a** Recognise that shapes with the same areas can have different perimeters and vice versa
36 Area				**36a -** Understand that area is a measure of surface within a given boundary **36b -** Find the area of rectilinear shapes by counting squares	**36a -** 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	**36a** Calculate the area of parallelograms and triangles **36b** Recognise when it is possible to use the formulae for area and volume of shapes
37Mass / Weight	**37a** Measure and begin to record mass/weight*, using non-standard and then standard units (kg and g) within children's range of counting competence* **37a**bCompare and describe capacity and volume (for example, full/empty, more than, less than, half, half full, quarter)	**37a** Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit using scales **37b**Compare and order mass and record the results using >, < and =	**37a** Measure, add and subtract mass (kg/g) **37b** Compare mass (kg/g)	**37a -** Estimate and calculate mass **37b -** Compare mass	**37a -** Use, read and write standard units of mass to a suitable degree of accuracy **37b -** Understand and use approximate equivalences between metric and common imperial units such as pounds	**37a** Use, read and write standard units of mass using decimal notation to three decimal places
Measurements – Capacity, volume, temperature & conversion						
38 Capacity / volume	**38a** Measure and begin to record capacity and volume *using non-standard and then standard units (litres and ml) within children's range of counting competence* **38b** Compare and describe capacity and volume (for example, full/empty, more than, less than, half, half	**38a** Choose and use appropriate standard units to estimate and measure capacity and volume (litres/ml) to the nearest appropriate unit using measuring vessels	**38a -** Measure, add and subtract volume/capacity (l/ml) **38b –** Compare volume/capacity (l/ml)	**38a -** Estimate and calculate volume/capacity **38b -** Compare volume/capacity	**38a -** Estimate (and calculate) volume (for example, using 1 cm cubed blocks to build cuboids (including cubes)) and capacity (for example, using water) **38b -** Understand the difference between liquid volume, including capacity and solid volume	**38a** Use, read and write standard units of volume using decimal notation to three decimal places **38**b Calculate and estimate volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3) and extending to other units

	full, quarter)				**38c -** Understand and use approximate equivalences between metric and common imperial units such as pints	(for example, mm3 and km3) **38c** Compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3) and extending to other units (for example, mm3 and km3)
39Temperature			**39a -** Continue to estimate and measure temperature to the nearest degree (°C) using thermometers	**39a -** Order temperatures including those below 0°C	**39a -** Continue to order temperatures including those below 0°C	**39a** Calculate differences in temperature, including those that involve a positive and negative temperature
40 Conversion				**40a -** Convert between different units of measure (e.g. kilometre to metre; hour to minute)	**40a -** Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	**40a** 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 three decimal places **40b**Convert between miles and kilometres
Measurement – Time						
41 Time	**41a** Recognise and use language relating to dates, including days of the week, weeks, months and years **41a**bCompare and describe time (for example, quicker, slower, earlier, later) **41c**Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening **41d**Measure and begin to record time (hours, minutes, seconds) **41e**Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	**41a** Compare and sequence intervals of time **41b**Know the number of minutes in an hour and the number of hours in a day **41c**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	**41a -** 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 **41b -** Know the number of seconds in a minute, and the number of days in each month, year and leap year **41c -** Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24- hour clocks **41d -** Estimate and read time with increasing accuracy to the nearest minute **41e -** Compare durations of events (for example to calculate the time taken by particular events or tasks)	**41a -** Convert between different units of time, e.g. hour to minute **41b-** Read, write and convert time between analogue and digital 12 and 24-hour clocks	**41a -** Convert between units of time in a problem solving context **41b -** Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks	**41a** Use, read and write standard units of time

Measurement – Money & solving problems						
42 Money	**42a** Recognise and know the value of different denominations of coins and notes	**42a** Recognise and use symbols for pounds (£) and pence (p) **42a**bCombine amounts to make a particular value **42c** Find different combinations of coins that equal the same amounts of money **42d** Add and subtract money of the same unit, including giving change	**42a -** Continue to recognise and use symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds and pence **42b -** Recognise that ten 10p coins are equivalent to £1 and that each coin is one tenth of £1**42c -** Add and subtract amounts of money to give change, using both £ and p in practical contexts	**42a -** Write amounts of money using decimal notation **42b -** Recognise that one hundred 1p coins are equivalent to £1 and that each coin is one hundredth of £1 **42c -** Estimate, compare and calculate money in pounds and pence		
43 Solving problems involving money & measures	**43a** Solve practical problems for: - lengths and heights - mass/weight - capacity and volume - time	**43a** Solve simple problems in a practical context involving addition and subtraction of money and measures (including time)	**43a -** Solve problems involving money and measures and simple problems involving passage of time	**43a -** Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures	**43a -** Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation including scaling **43b -** Solve problems involving converting between units of time	**43a** Solve problems involving the calculation and conversion of units of measure including money and time), using decimal notation up to three decimal places where appropriate
Geometry – Properties of shapes						
44 Properties of shape	**44a** Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles **44b** Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres	**44a** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line **44b**Identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid) **44c**Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	**44a -** Draw 2-D shapes and describe them **44b -** Identify horizontal and vertical lines and pairs of perpendicular and parallel lines **44c -** Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	**44a -** Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes **44b-** Identify lines of symmetry in 2-D shapes presented in different orientations **44c -** Complete a simple symmetric figure with respect to a specific line of Symmetry **44d -** Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines **44e -** Compare and classify geometric shapes based on their properties and sizes	**44a -** Distinguish between regular and irregular polygons based on reasoning about equal sides and angles **44b -** Use the properties of rectangles to deduce related facts and find missing lengths and angles **44c -** Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	**44a** Compare and classify geometric shapes based on their properties and sizes Draw 2-D shapes using given dimensions and angles **44b** Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius **44a** Recognise, describe and build simple 3-D shapes, including making nets
45 Angles & rotation	**45a** Describe movement, including whole, half, quarter and three-quarter turns	**45a** Use mathematical vocabulary to describe movement, including rotation as a turn **45a**bUnderstand the link between rotation and turns in terms of right angles for	**45a -** Recognise angles as a property of shape or a description of a turn **45b -** Identify right angles, recognise that two right angles make a half-turn, three make three quarters	**45a -** Identify acute and obtuse angles and compare and order angles up to two right angles by size	**45a -** Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles **45b -** Draw given angles, and measure them in degrees	**45a** Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **45b** Find unknown angles

		quarter, half and three quarter turns (clockwise and anti-clockwise)	of a turn and four a complete turn; identify whether angles are greater than or less than a right angle		(°) Identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and 1/2 a turn (total 180°) - other multiples of 90°	in any triangles, quadrilaterals, and regular polygons
Geometry – Position & direction						
46 Patterns	*Recognise and create repeating patterns with objects and shapes*	**46a** Order and arrange combinations of mathematical objects in patterns and sequences				
47 Position & direction	47a Describe position and direction	**47a** Use mathematical vocabulary to describe position, movement, including movement in a straight line				
48 Coordinates including reflection & Translation			**48a -** Describe positions on a square grid labelled with letters and numbers	**48 a -** Describe positions on a 2-D grid as coordinates in the first quadrant **48b -** Plot specified points and draw sides to complete a given polygon **48c -** Describe movements between positions as translations of a given unit to the left/right and up/down	**48a -** Describe positions on the first quadrant of a coordinate grid **48b -** Plot specified points and complete shapes **48c -** 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	**48a** Describe positions on the full coordinate grid (all four quadrants) **48b** Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Statistics						
49 Sorting & classifying	*Sort objects, numbers and shapes to a given criterion and their own*	**49a** Compare and sort *objects, numbers* and common 2-D and 3-D shapes and everyday objects	**49a -** Use sorting diagrams to compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects	**49a -** Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	**49a -** Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes)	**49a** Continue to complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes)
50 Present and interpret data	*Present and interpret data in block diagrams using practical equipment*	**50a** Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	**50a -** Interpret and present data using bar charts, pictograms and tables	**50a -** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	**50a -** Complete, read and interpret information in tables, including timetables	**50a** Interpret and construct pie charts and line graphs and use these to solve problems
51 Solving problems using data	*Ask and answer simple questions by counting the number of objects in each category* *Ask and answer questions by comparing categorical data*	**51a** Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity **51a**bAsk and answer questions about totalling and comparing categorical data	**51a -** Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables	**51a -** Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	**51a -** Solve comparison, sum and difference problems using information presented in all types of graph including a line graph	*Solve comparison, sum and difference problems using information presented in all types of graph*

52 Averages					**52a -** Calculate and interpret the mode, median and range	**52a** Calculate and interpret the mean as an average