

Maths

| NUMBER AND PLACE VALUE | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens given a number, identify one more and one less identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words. | <ul style="list-style-type: none"> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward recognise the place value of each digit in a two-digit number (tens, ones) identify, represent and estimate numbers using different representations, including the number line compare and order numbers from 0 up to 100; use and = signs read and write numbers to at least 100 in numerals and in words use place value and number facts to solve problems | <ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words solve number problems and practical problems involving these ideas | <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1000 solve number and practical problems that involve all of the above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. | <ul style="list-style-type: none"> read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals | <ul style="list-style-type: none"> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above. |
| Maths No Problem Focus Chapter and Sequence of Lessons | <p>Textbook 1A – Chapter 1 – Numbers to 10</p> <ul style="list-style-type: none"> Counting to 10 Counting objects to 10 Writing to 10 Counting to zero Comparing numbers of objects Ordering numbers Comparing numbers <p>Textbook 1A – Chapter 6 – Numbers to 20</p> <ul style="list-style-type: none"> Counting to 20 Writing to 20 | <p>Textbook 2A – Chapter 1 – Numbers to 100</p> <ul style="list-style-type: none"> Counting to 100 Place value Comparing numbers Number bonds Number patterns (lessons 5&6). | <p>Textbook 3A – Chapter 1 – Numbers to 1000</p> <ul style="list-style-type: none"> Counting in hundreds Counting in hundreds, tens and ones Place value Comparing and ordering numbers Counting in fifties Number patterns Counting in fours and eights | <p>Textbook 4A – Chapter 1 – Numbers to 10,000</p> <ul style="list-style-type: none"> Counting in hundreds and twenty-fives Counting in thousands Counting in thousands, hundreds, tens and ones Using place value (lessons 4 & 5) Comparing and ordering numbers (lessons 6 & 7) Making number patterns (lessons 8&9). Counting in sixes, sevens and | <p>Textbook 5A – Chapter 1 – Numbers to 1,000,000</p> <ul style="list-style-type: none"> Reading and writing numbers to 100,000 Reading and writing numbers to 1,000,000 (lessons 2&3). Comparing numbers to 1,000,000 (lessons 4-7) Making number patterns (lessons 8&9) Rounding numbers (lessons 10-12) <p>Textbook 5B – Chapter 14 –</p> | |

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| | <ul style="list-style-type: none"> • Comparing numbers • Ordering numbers • Number patterns <p>Textbook 1B – Chapter 10 – Numbers to 40</p> <ul style="list-style-type: none"> • Counting to 40 • Writing numbers to 40 • Counting in Tens and Ones • Comparing numbers • Finding how much more • Making number patterns <p>Textbook 1B – Chapter 15 – Numbers to 100</p> <ul style="list-style-type: none"> • Counting to 100 • Finding Tens and Ones • Comparing numbers • Making number patterns | | | <p>nines</p> <ul style="list-style-type: none"> • Rounding numbers (lessons 11&12). • Rounding numbers to estimate (lessons 13&14). <p>Textbook 4B – Chapter 14 – Roman numerals</p> <ul style="list-style-type: none"> • Writing roman numerals for 1 to 20 • Writing roman numerals to 100 | <p>Roman numerals</p> <ul style="list-style-type: none"> • Writing roman numerals to 1000 • Writing years in roman numerals | |
| <p>Knowledge</p> | <ul style="list-style-type: none"> • Equal means the same in amount, size or number. • More than means greater in amount or size. • Less than means smaller in amount or size. • Most means the biggest number or amount of something. • Least means the smallest number or amount of something. | <ul style="list-style-type: none"> • Place value refers to the amount a digit is worth due to its position in a number. • Estimate means to have a sensible guess. • Estimating is calculating the approximate amount, size or value of something. • Less than (<) shows that the value to the left of it is lower than the value to the right of it. • Greater than (>) shows that the value to the left of it is higher than the value to the right of it. • Equals (=) shows that the number on each side of it has or should have the same value. | <ul style="list-style-type: none"> • A digit is any number from 0-9. • In place value, each place is 10 times the value of the place to its right. | <ul style="list-style-type: none"> • A positive number is greater than zero. • A negative number is less than zero. • For two or more digits, if the number to the right of the place value number you are rounding is equal to or greater than 5, round up. • If the number to the right of the place value number you are rounding is less than 5, round down. • Estimate means to quickly find, with some thought of the calculation, an approximate value close to the right value. • Inverse operations are opposites that reverse the effect of the other operation. • In Roman numerals I=1, V=5, X=10, L=50 and C=100. All numbers between 1 and 100 can be written using a combination of these. • If a lower value numeral is | <ul style="list-style-type: none"> • Temperatures can be measured in Celcius. 0°C is the freezing point of water and 100°C is the boiling point of water. • For two or more digits, if the number to the right of the place value number you are rounding is equal to or greater than 5, round up. • If the number to the right of the place value number you are rounding is less than 5, round down. • In Roman numerals I=1, V=5, X=10, L=50, C=100, D=500 and M=1000. All numbers between 1 and 100 can be written using a combination of these. • If a lower value numeral is placed after a higher value numeral, it indicates they should be added together. • If a lower value is placed before a higher value | <ul style="list-style-type: none"> • |

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| | | | | <p>placed after a higher value numeral, it indicates they should be added together.</p> <ul style="list-style-type: none"> If a lower value is placed before a higher value numeral, it should be subtracted from the higher value. | <p>numeral, it should be subtracted from the higher value.</p> <ul style="list-style-type: none"> Years are sometimes written in Roman numerals, for example 2020 is MMXX. | |
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| ADDITION AND SUBTRACTION | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including zero solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. | <ul style="list-style-type: none"> solve problems with addition and subtraction: <ul style="list-style-type: none"> using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot recognise and use the inverse relationship between addition and subtraction and | <ul style="list-style-type: none"> add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and ones a three-digit number and tens a three-digit number and hundreds add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | <ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. | <ul style="list-style-type: none"> add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) add and subtract numbers mentally with increasingly large numbers use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. | |

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| | | use this to check calculations and solve missing number problems. | | | | |
| Maths No Problem Focus Chapter and Sequence of Lessons | <p>Textbook 1A – Chapter 2 – Number bonds</p> <ul style="list-style-type: none"> making number bonds making number stories <p>Textbook 1A – Chapter 3 – Addition within 10</p> <ul style="list-style-type: none"> add by using number bonds add by counting on completing number sentences making addition stories solving picture problems <p>Textbook 1A – Chapter 4 – Subtraction within 10</p> <ul style="list-style-type: none"> subtract by crossing out subtract by using number bonds subtract by counting back making subtraction stories solving picture problems addition and subtraction <p>Textbook 1A – Chapter 7 – Addition and Subtraction within 20</p> <ul style="list-style-type: none"> add by counting on add by making 10 add by adding ones subtract by counting back subtract by subtracting ones subtract from 10 addition and subtraction facts <p>Textbook 1B – Chapter 11 – Addition and subtraction word problems</p> <ul style="list-style-type: none"> solving word problems (lessons 1-6). | <p>Textbook 2A – Chapter 2 – Addition and Subtraction</p> <ul style="list-style-type: none"> simple adding (lessons 1-4) adding with renaming (lessons 5&6) simple subtracting (lessons 7-10) subtracting with renaming (lessons 11&12) addition of three numbers <p>Textbook 2B – Chapter 9 – More word Problems</p> <ul style="list-style-type: none"> solving word problems (lessons 1-4) | <p>Textbook 3A – Chapter 2 – Addition and Subtraction</p> <ul style="list-style-type: none"> addition and subtraction facts simple adding (lessons 2-5) adding with renaming (lessons 6-10) simple subtracting (lessons 11-15) subtracting with renaming (lessons 16-19) using models (lessons 20-22) | <p>Textbook 4A – Chapter 2 – Addition and Subtraction within 10,000</p> <ul style="list-style-type: none"> finding sums adding without renaming adding with renaming (lessons 3-5) adding using mental strategies (lessons 6&7) finding differences subtracting without renaming subtracting with renaming (lessons 10-13) subtracting using mental strategies solving word problems (lessons 15-17) | <p>Textbook 5A – Chapter 2 – Whole numbers: addition and subtraction</p> <ul style="list-style-type: none"> Counting on to add Counting backwards to subtract Adding within 1,000,000 Adding and subtracting within 1,000,000 Adding within 1,000,000 Subtracting within 1,000,000 Adding and subtracting within 1,000,000 Adding within 1,000,000 Subtracting within 1,000,000 Subtracting within 1,000,000 | |
| Knowledge | <ul style="list-style-type: none"> Addition (+) is putting two or more numbers or objects together to give a larger | <ul style="list-style-type: none"> Numbers can be added in any order and the answer will be the same. | <ul style="list-style-type: none"> Estimate means to quickly find, with some thought of the calculation, an approximate | <ul style="list-style-type: none"> Estimate means to quickly find, with some thought of the calculation, an approximate | <ul style="list-style-type: none"> Estimate means to quickly find, with some thought of the calculation, an | <ul style="list-style-type: none"> |

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| | <p>number (the total).</p> <ul style="list-style-type: none"> Subtraction (-) is removing or taking away numbers or objects. What is left is the difference between the two numbers. The equals sign (=) shows that things on both sides of it have the same value. A number bond is a pair of numbers that add up to a given number. 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are one-digit numbers One-digit numbers are made up of one digit or number. Two-digit numbers have two digits, such as 12 or 20. | <ul style="list-style-type: none"> Numbers cannot be subtracted in any order to give the same answer. | <p>value close to the right value.</p> <ul style="list-style-type: none"> Inverse operations are opposites that reverse the effect of the other operation. Addition and subtraction are inverse operations. | <p>value close to the right value.</p> <ul style="list-style-type: none"> Inverse operations are opposites that reverse the effect of the other operation. | <p>approximate value close to the right value.</p> | |
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| MULTIPLICATION AND DIVISION | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot solve problems involving multiplication and division, | <p>recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>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 and progressing to formal written methods ♣ solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p> | <ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12×12 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 recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using the distributive | <ul style="list-style-type: none"> identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers | <ul style="list-style-type: none"> multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context divide numbers up to 4 digits by a two-digit number using the formal written method of short division |

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| | | using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | | law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. | mentally drawing upon known facts <ul style="list-style-type: none"> • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Mathematics – key stages 1 and 2 33 Statutory requirements • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • 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 | where appropriate, interpreting remainders according to the context <ul style="list-style-type: none"> • perform mental calculations, including with mixed operations and large numbers • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the four operations • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Mathematics – key stages 1 and 2 40 Statutory requirements • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. |
| Maths No Problem Focus Chapter and Sequence of Lessons | Textbook 1B – Chapter 12 – Multiplication <ul style="list-style-type: none"> • making equal groups • adding equal groups • making equal rows • making doubles • solving word problems Textbook 1B – Chapter 13 - Division <ul style="list-style-type: none"> • grouping equally • sharing equally | Textbook 2A – Chapter 3 – Multiplication of 2, 5 and 10 <ul style="list-style-type: none"> • multiplication as equal groups • 2 times table (lessons 2&3) • 5 times table (lessons 4&5) • 10 times table (lessons 6&7) • Multiplying by 2, 5 and 10 (lessons 8&9) • Solving word problems Textbook 2A – Chapter 4 – Multiplication and division of 2, | Textbook 3A – Chapter 3 – Multiplication and division <ul style="list-style-type: none"> • Multiplying by 3 (lessons 1&2) • Multiplying by 4 (lessons 3&4) • Multiplying by 4 and 8 • Multiplying by 8 (lessons 6&7) • Dividing by 3 • Dividing by 4 • Multiplying and dividing • Dividing by 4 and 8 • Solving word problems (lessons | Textbook 4A – Chapter 3 – Multiplication and division <ul style="list-style-type: none"> • Multiplying by 6 • Multiplying by 7 • Multiplying by 9 (lessons 3&4) • Multiplying by 11 (lessons 5&6) • Multiplying by 12 • Dividing by 6 • Dividing by 7 • Dividing by 9 • Multiplying and dividing by 11 | Textbook 5A – Chapter 3 – Whole numbers: multiplication and division <ul style="list-style-type: none"> • Finding multiples • Finding factors • Finding common factors • Finding prime numbers (lessons 4&5) • Finding square and cube numbers • Multiplying by 10,100 and 1000 | |

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| | | <p>5 and 10</p> <ul style="list-style-type: none"> • Grouping • Sharing • Dividing by 2 • Dividing by 5 • Dividing by 10 • Multiplication and division • Solving word problems • Odd and even numbers | <p>12-14)</p> <ul style="list-style-type: none"> • Solving problems <p>Textbook 3A – Chapter 4 – Further multiplication and division</p> <ul style="list-style-type: none"> • Multiplying 2-digit numbers (lessons 1-3) • Multiplying with regrouping (lessons 4&5) • Dividing 2-digit numbers • Dividing with regrouping (lessons 7&8) • Solving word problems (lessons 9&10) | <p>and 12</p> <ul style="list-style-type: none"> • Dividing with remainder • Solving word problems (lessons 13-18) <p>Textbook 4A – Chapter 4 – further multiplication and division</p> <ul style="list-style-type: none"> • Multiplying by 0 and 1 • Dividing by 1 • Multiplying the same two numbers • Multiplying three numbers • Multiplying multiples of 10 • Multiplying 2-digit numbers (lessons 6&7) • Multiplying multiples of 100 • Multiplying three-digit numbers (lessons 9-11) • Dividing 2-digit numbers • Dividing 3-digit numbers • Dividing 2-digit number • Dividing 3-digit number • Dividing 3-digit numbers • Solving word problems (lessons 17&18) | <ul style="list-style-type: none"> • Multiplying 2-digit and 3-digit numbers by a single digit • Multiplying 4-digit numbers (lessons 9-11) • Multiplying a 2-digit number by a 2-digit number (lessons 12&13) • Multiplying a 3-digit number by a 2-digit number (lessons 14&15) • Dividing by 10,100 and 1000 • Dividing 3-digit and 4-digit numbers • Dividing 4-digit numbers • Dividing with remainder <p>Textbook 5A – Chapter 4 – Whole numbers: word problems</p> <ul style="list-style-type: none"> • Solving word problems (lessons 1-4) | |
| Knowledge | <ul style="list-style-type: none"> • Doubling is adding the same number to itself. • Halving is dividing or sharing a number into two equal parts or groups. | <ul style="list-style-type: none"> • Multiplication (x) is repeated addition. • Division is splitting or sharing into equal parts. • An even number is any number ending in 0, 2, 4, 6 or 8. • An odd number is any number ending in 1, 3, 5, 7 or 9. • Numbers can be multiplied in any order and the answer will be the same. • Numbers cannot be divided in any order to give the same answer. • Division is the opposite of multiplication. • Multiplication is the opposite | <ul style="list-style-type: none"> • Inverse operations are opposites that reverse the effect of the other operation. • Multiplication and division are inverse operations. • A positive number is greater than zero. • A negative number is less than zero. • An integer is a whole number that can be scaled up using repeated addition or multiplication. • Correspondence in maths is how things are related. There are different types of relationship: one to one, one to many, many to one and many to many. | <ul style="list-style-type: none"> • Inverse operations are opposites that reverse the effect of the other operation. • Multiplication and division are inverse operations. • Multiples are the values in that number's times table. For example, the multiples of 6 are 6, 12, 18 and so on. • Multiplying by 2 is the same as doubling. • Multiplying by 4 is the same as doubling and doubling again. • Multiplying by 10 and halving is the same as multiplying by 5. • Factors are whole numbers that divide exactly into another number. The original numbers are factors of the product | <ul style="list-style-type: none"> • Factors are whole numbers that divide exactly into another number. The original numbers are factors of the product number. • Factor pairs are sets of two factors that when multiplied together give a particular number. • Common factors are factors found in more than one number. • Prime numbers are whole numbers that are greater than 1 and can only divide by themselves and 1. • Prime factors are prime numbers that can be multiplied together to give | <ul style="list-style-type: none"> • |

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| | | of division. | | <p>number.</p> <ul style="list-style-type: none"> Factor pairs are sets of two factors that when multiplied together give a particular number. Partitioning breaks a number into its place value units. The distributive law is that multiplying a number by a group of numbers added together is the same as doing each multiplication separately then adding them together. The associative law is that it doesn't matter how numbers are grouped (calculated) when adding or multiplying them. An integer is a whole number that can be scaled up using repeated addition or multiplication. Correspondence in maths is how things are related. There are different types of relationship: one to one, one to many, many to one and many to many. | <p>the original number.</p> <ul style="list-style-type: none"> Composite numbers are non-prime numbers (whole numbers that can be made by multiplying more than one pair of factors). Prime numbers are whole numbers that are greater than 1 and can only divide themselves and 1, 2, 3, 5, 7, 11, 13, 17, and 19 are prime numbers. A square number is a number multiplied by itself. A cube number is a number multiplied by itself three times. A remainder is the whole number left over after a division calculation. The notation for square numbers is (2) and cube numbers is (3). Equals (=) shows that things on both sides of it have or should have the same value. |
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| FRACTIONS (INCLUDING DECIMALS AND PERCENTAGES) | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | <ul style="list-style-type: none"> recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity write simple fractions for example, $2 \frac{1}{6} = 3$ and recognise the equivalence of $4 \frac{2}{6}$ and $2 \frac{1}{3}$. | <ul style="list-style-type: none"> count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators recognise and use fractions as numbers: unit fractions and | <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions | <ul style="list-style-type: none"> compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write | <ul style="list-style-type: none"> use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions |

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| | | | <p>non-unit fractions with small denominators</p> <ul style="list-style-type: none"> • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above. | <p>where the answer is a whole number</p> <ul style="list-style-type: none"> • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $1/4$, $1/5$, $3/4$ • 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 • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places. | <p>mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$]</p> <ul style="list-style-type: none"> • add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • read and write decimal numbers as fractions (for example, $0.71 = 71/100$) • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 | <ul style="list-style-type: none"> • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$] • divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$] • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $3/8$] • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • solve problems which require answers to be rounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. |
| Maths No | Textbook 1B – Chapter 14 Fractions | Textbook 2B – Chapter 13 – Fractions | Textbook 3B – Chapter 11 – Fractions | Textbook 4A – Chapter 6 – Fractions | Textbook 5A – Chapter 6 – Fractions | |

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| <p>Problem Focus Chapter and Sequence of Lessons</p> | <ul style="list-style-type: none"> • making halves • making quarters • sharing and grouping | <ul style="list-style-type: none"> • making equal parts • showing half and quarter • showing quarters • showing thirds • naming fractions • making equal fractions • comparing and ordering fractions (lessons 7&8) • counting wholes and parts • counting in halves • counting in quarters • counting in thirds • finding part of a set (lessons 13-15) • finding part of a quantity | <ul style="list-style-type: none"> • counting in tenths • making number pairs • adding fractions (lessons 3&4) • subtracting fractions • finding equivalent fractions (lessons 6-11) • finding the simplest fraction (lessons 12&13) • finding equivalent fractions • comparing fractions (lessons 15-17) • adding fractions • subtracting fractions (lessons 19&20) • finding part of a set (lessons 21&22) • finding the fraction of a number • sharing one • sharing more than 1 (lessons 25-27) • solving word problems (lessons 28-30) | <ul style="list-style-type: none"> • counting in hundredths • writing mixed numbers • showing mixed numbers on a number line • finding equivalent fractions (lessons 4&5) • simplifying mixed numbers • simplifying improper fractions • adding fractions (lessons 8-10) • subtracting fractions (lessons 11&12) • solving word problems <p>Textbook 4B – Chapter 8 – Decimals</p> <ul style="list-style-type: none"> • writing tenths (lessons 1-3) • writing hundredths (lessons 4-7) • writing decimals • comparing and ordering decimals (lessons 9-11) • making number patterns • rounding decimals (lessons 13&14) • writing fractions as decimals • dividing whole numbers by 10 • dividing whole numbers by 100 | <ul style="list-style-type: none"> • Dividing to make fractions • Writing improper fractions and mixed numbers • Finding equivalent fractions • Comparing and ordering fractions (lessons 4-6) • Making number pairs • Adding fractions (lessons 8-11) • Subtracting fractions (lessons 12-14) • Multiplying fractions by whole numbers (lessons 15&16) • Multiplying mixed numbers • Multiplying mixed numbers by whole numbers <p>Textbook 5B – Chapter 7 – Decimals</p> <ul style="list-style-type: none"> • Writing decimals • Reading and writing decimals (lessons 2&3) • Comparing decimals (lessons 4-6) • Writing fractions as decimals • Adding and subtracting decimals (lessons 8-14) • Rounding decimals <p>Textbook 5B – Chapter 8 – Percentage</p> <ul style="list-style-type: none"> • Comparing quantity • Finding percentages (lessons 2&3) | |
| <p>Knowledge</p> | <ul style="list-style-type: none"> • A half is one of two equal parts of a whole object, shape or quantity. • A quarter is one of four equal parts of a whole object, shape or quantity. | <ul style="list-style-type: none"> • A half is one of two equal parts of a whole object, shape or quantity. • A quarter is one of four equal parts of a whole object, shape or quantity. • A third is one of three equal parts of a whole object, shape or quantity. • Equivalence means of equal (the same) value. | <ul style="list-style-type: none"> • A tenth is 1 divided by 10. • Unit fractions have a numerator of 1. • Non-unit fractions have a numerator greater than 1. • The numerator of a fraction is the top number and shows how many parts there are. • The denominator of a fraction is the bottom number and shows into how many equal | <ul style="list-style-type: none"> • A tenth is 1 divided by 10. • A hundredth is 1 divided by 100. • The numerator of a fraction is the top number and shows how many parts there are. • The denominator of a fraction is the bottom number and shows into how many equal parts the item or number is divided. | <ul style="list-style-type: none"> • The numerator of a fraction is the top number and shows how many parts there are. • The denominator of a fraction is the bottom number and shows into how many equal parts the item or number is divided. • Unit fractions have a numerator of 1. • Non-unit fractions have a | <ul style="list-style-type: none"> • |

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| | | <ul style="list-style-type: none"> Two quarters are equivalent to one half. | <p>parts the item or number is divided.</p> <ul style="list-style-type: none"> Unit fractions have a numerator of 1. Non-unit fractions have a numerator greater than 1. Equivalence means of equal (the same) value. | <ul style="list-style-type: none"> A fraction where the numerator is greater than the denominator is an improper fraction and has a value greater than one. A decimal number is a number with a decimal point in it that shows the whole number to the left of the point and tenths, hundredths and thousandths and so on to the right of it. Fractions have decimal equivalents. For two or more digit numbers, if the number to the right of the place value number you are rounding is equal to or greater than 5, round up. If the number to the right of the place value number you are rounding is less than 5, round down. In place value, each place is 10 times the value of the place to its right, including after the decimal point. | <p>numerator greater than 1.</p> <ul style="list-style-type: none"> Equivalence means of equal (the same) value. A tenth is 1 divided by 10. A hundredth is 1 divided by 100. A thousandth is 1 divided by 1000. A proper fraction has a numerator less than the denominator. An improper fraction has a numerator equal to or greater than the denominator. A mixed number is the combination of a whole number and a proper fraction. For two or more digit numbers, if the number to the right of the place value number you are rounding is equal to or greater than 5, round up. If the number to the right of the place value number you are rounding is less than 5, round down. In place value, each place is 10 times the value of the place to its right, including after the decimal point. % is the symbol for percent and percent is the number of parts per hundred. | |
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| GEOMETRY (PROPERTIES OF SHAPE) | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> Recognise and name common 2-D shapes (for example, rectangles (including | <ul style="list-style-type: none"> Identify and describe the properties of 2-D shapes, including the number of sides | <ul style="list-style-type: none"> Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D | <ul style="list-style-type: none"> Compare and classify geometric shapes, including quadrilaterals and triangles, | <ul style="list-style-type: none"> Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. | <ul style="list-style-type: none"> Draw 2-D shapes using given dimensions and angles. |

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| | <p>squares), circles and triangles).</p> <ul style="list-style-type: none"> Recognise and name common 3-D shapes (for example, cuboids (including cubes), pyramids and spheres). | <p>and line of symmetry in a vertical line.</p> <ul style="list-style-type: none"> Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes (for example, a circle on a cylinder and a triangle on a pyramid). Compare and sort common 2-D and 3-D shapes and everyday objects. | <p>shapes in different orientations and describe them.</p> <ul style="list-style-type: none"> Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three right angles make three quarters of a turn and four complete a turn; identify whether angles are greater than or less than a right angle. | <p>based on their properties and sizes.</p> <ul style="list-style-type: none"> Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. | <ul style="list-style-type: none"> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees. Identify angles at a point and one whole turn (total 360°) Identify angles at a point on a straight line and ½ a turn (total 180°) Identify other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. | <ul style="list-style-type: none"> Recognise, describe and build simple 3-D shapes, including making nets. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Illustrate and name parts of circles, including radius, diameter, and circumference and know that the diameter is twice the radius. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. |
| <p>Maths No Problem Focus Chapter and Sequence of Lessons</p> | <p>Textbook 1A – Chapter 8 – Shape and Patterns</p> <ul style="list-style-type: none"> Recognising solids Recognising shapes Grouping shapes Making patterns | <p>Textbook 2B – Chapter 11 – Two-dimensional shapes</p> <ul style="list-style-type: none"> Identifying sides Identifying vertices Identifying lines of symmetry Making figures Sorting shapes Drawing shapes Making patterns Describing patterns Moving shapes Turning shapes <p>Textbook 2B – Chapter 12 – Three-dimensional shapes</p> <ul style="list-style-type: none"> Recognising three dimensional shapes Describing three dimensional shapes (lessons 2&3) Grouping three dimensional shapes Forming three dimensional shapes Making patterns | <p>Textbook 3B – Chapter 12 – Angles</p> <ul style="list-style-type: none"> Making angles (lessons 1&2) Finding angles in shapes Finding right angles Comparing angles (lessons 5&6) Making turns <p>Textbook 3B – Chapter 13 – Lines and shapes</p> <ul style="list-style-type: none"> Identifying perpendicular lines Identifying parallel lines Finding vertical and horizontal lines Describing two-dimensional shapes Drawing two-dimensional shapes Making three-dimensional shapes (lessons 6&7) Describing three-dimensional shapes | <p>Textbook 4B – Chapter 12 – Geometry</p> <ul style="list-style-type: none"> Knowing types of angles Comparing angles Classifying triangles Classifying quadrilaterals Identifying symmetrical figures Drawing lines of symmetry Completing symmetrical figures Making symmetrical figures Completing symmetrical figures Sorting shapes | <p>Textbook 5B – Chapter 9 – Geometry</p> <ul style="list-style-type: none"> Knowing types of angles Measuring angles (lessons 2&3) Investigating angles on a line Investigating angles at a point Drawing angles Drawing lines and angles Describing squares and rectangles Investigating angles in squares and rectangles Solving problems involving angles in rectangles Solving problems involving angles (lessons 11&12) Investigating regular polygons | |

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| <p>Knowledge</p> | <ul style="list-style-type: none"> • These are common 2-D shapes: squares, rectangles, circles, triangles, pentagons, hexagons and octagons. • Common 3-D shapes include cuboids, cubes, spheres, cones, cylinders and pyramids. | <ul style="list-style-type: none"> • A two-dimensional (2-D) shape only has two measurements. • These are common 2-D shapes: squares, rectangles, circles, triangles, pentagons, hexagons and octagons. • A shape has symmetry in a vertical line if a line can be drawn down the middle of it and the left side is a mirror image of the right. • Squares and rectangles have four sides and a vertical line of symmetry. • Circles have one side and a vertical line of symmetry. Triangles have three sides and may have a vertical line of symmetry. • A vertex of a 3-D shape is a corner where lines meet. • The plural of vertex is vertices. • An edge of a 3-D shape joins two vertices. • The flat surface of a 3-D shape is called a face. • A three-dimensional (3-D) shape has three measurements and can be held. • Common 3-D shapes include cuboids, cubes, spheres, cones, cylinders and pyramids. • The flat surface of a 3-D shape is called a face. • The faces of a cuboid can be rectangles and squares. • The faces on a cube are squares. • Two of the faces on a cylinder are circles. • One of the faces on a | <ul style="list-style-type: none"> • A two-dimensional shape only has two measurements. • A three-dimensional shape has three measurements and can be held. • Common 3-D shapes include cuboids, cubes, spheres, cones, cylinders and pyramids. • A vertex of a 3-D shape is a corner where lines meet. • The plural of vertex is vertices. • An edge of a 3-D shape joins two vertices. • The flat surface of a 3-D shape is called a face. • An angle is the amount of turn, or space, between two lines around their vertex and is measured in degrees. • A right angle is a quarter-turn. • Two right angles make a half-turn. • Three right angles make three-quarters of a turn. • Four right angles make a complete turn. • Horizontal lines go across. • Vertical lines go up and down. • Perpendicular lines are lines that form a right angle where they meet or cross. • Parallel lines never meet or cross. They are always the same distance apart. | <ul style="list-style-type: none"> • A quadrilateral is a four-sided shaped (quad is derived from the Latin word meaning four and lateral is related to sides). • A square has four equal sides, four right angles and four lines of symmetry. • A rectangle or oblong has two sets of two equal sides, four right angles and four lines of symmetry. • A parallelogram has two sets of two equal sides, two sets of two equal angles and usually no lines of symmetry. • A trapezium has at least two parallel sides and can have pairs of equal angles and a line of symmetry. • A triangle is a three-sided shape (tri is derived from Latin and Greek meaning three). • An equilateral triangle has three equal sides and angles and three lines of symmetry. • An isosceles triangle has two equal sides and angles. • A scalene triangle has no equal sides and no equal angles. • A right-angled triangle has a 90°. • The angles in any triangle add up to 180°. • An acute angle is less than a right angle (90°). • An obtuse angle is greater than a right angle (90°) but less than a straight angle (180°). • A shape or object is symmetrical if you can draw a straight line vertically, horizontally or diagonally down the middle of it and the two sides are a mirror image of each other. • The straight, often imaginary, | <ul style="list-style-type: none"> • An angle is the amount of turn, or space, between two lines around their vertex and is measured in degrees. • An acute angle is less than a right angle (90°). • An obtuse angle is greater than a right angle (90°) but less than a straight angle (180°). • A reflex angle is greater than a straight angle (180°) but less than 360° (a complete rotation). • A polygon (a 2-D shape formed with straight lines) is regular when all sides and angles are equal. • A polygon is irregular if it has different length sides and/or angles. | <ul style="list-style-type: none"> • |
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| | pyramid may be a circle, square or a rectangle. | | lines are called lines or axes of symmetry. | |
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| GEOMETRY (POSITION AND DIRECTION) | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> Describe position, direction and movement, including whole, half, quarter and three-quarter turns. | <ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). | | <ul style="list-style-type: none"> Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. |
| Maths No Problem Focus Chapter and Sequence of Lessons | <p>Textbook 1A – Chapter 5 – Positions</p> <ul style="list-style-type: none"> Naming positions Naming positions in queues Naming left and right positions <p>Textbook 1B – Chapter 20 – Space</p> <ul style="list-style-type: none"> Describing positions Describing movements Making turns | <p>Textbook 2B – Chapter 11 – Two-dimensional shapes</p> <ul style="list-style-type: none"> Identifying sides Identifying vertices Identifying lines of symmetry Making figures Sorting shapes Drawing shapes Making patterns Describing patterns Moving shapes Turning shapes <p>Textbook 2B – Chapter 12 – Three-dimensional shapes</p> <ul style="list-style-type: none"> Recognising three dimensional shapes Describing three dimensional shapes (lessons 2&3) Grouping three dimensional shapes Forming three dimensional shapes | | <p>Textbook 4B – Chapter 13 – Position and movement</p> <ul style="list-style-type: none"> Describing position (lessons 1&2) Plotting points Describing movements (lessons 4&5) | <p>Textbook 5B – Chapter 10 – Position and movement</p> <ul style="list-style-type: none"> Naming and plotting points Describing translations Describing movements (lessons 3&4) Successive reflections | |

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| | | <ul style="list-style-type: none"> • Making patterns | | | | |
| Knowledge | <ul style="list-style-type: none"> • Position, direction and movement can be described using these words: top, middle, bottom, on top of, in front of, above, between, around, near, close, far, up, down, turn, forwards, backwards, inside, outside, left and right. | <ul style="list-style-type: none"> • Position, directly and movement, including rotation, can be described using these words: top, middle, bottom, on top of, in front of, above, between, around, near, close, far, up, down, turn, forwards, backwards, inside, outside, left and right. • A half is one of two equal parts of a whole object, shape, quantity or movement. • A quarter is one of four equal parts of a whole object, shape, quantity or movement. • Clockwise is the movement in the direction of the rotation of the hands of a clock. • The opposite direction is anti-clockwise. | <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • Coordinates are numbers or letters that determine the position of a point or shape in a grid, graph or map. • The x-axis is horizontal from or through zero and the y-axis is vertical from or through zero. • When reading coordinates or using them to determine a point, x is read before y. • A translation moves a shape up, down or from side to side, without reflecting it or changing its shape. • A polygon is any 2-D shape formed with straight lines. | <ul style="list-style-type: none"> • A translation moves a shape up, down or from side to side, without reflecting it or changing its shape. • A reflection is the image of a shape if it was looked at in a mirror. • Shapes that have been translated or reflected are the same size as the original shape. | <ul style="list-style-type: none"> • |

| MEASUREMENT | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | <ul style="list-style-type: none"> • Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half); mass/weight (for example, heavy/light, heavier than, lighter than); capacity and volume (for example: full/empty, more than, less than, half, half full, quarter); time (for example, quicker, slower, earlier, later). • Measure and begin to record the following: lengths and | <ul style="list-style-type: none"> • Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm; mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using <, > and =. • Recognize and use symbols | <ul style="list-style-type: none"> • Measure, compare, add, and subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml). • Measure the [perimeter of simple 2-D shapes. • Add and subtract amounts of money to give change, using both £ and p in practical contexts. • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. | <ul style="list-style-type: none"> • Convert between different units of measure (for example, kilometre to metre; hour to minute). • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Find the area of rectilinear shapes by counting squares. • Estimate, compare and calculate different measures, including money in pounds and pence. | <ul style="list-style-type: none"> • Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millimetre). • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Measure and calculate the perimeter of composite | <ul style="list-style-type: none"> • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to |

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| | <p>heights; mass/weight; capacity and volume; time (hours, minutes, seconds).</p> <ul style="list-style-type: none"> Recognise and know the value of different denominations of coins and notes. Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening). Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. | <p>for pounds (£) and pence (p); combine amounts to make a particular value.</p> <ul style="list-style-type: none"> Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Compare and sequence intervals of time. Tell 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. Know the number of minutes in an hour and the number of hours in a day. | <ul style="list-style-type: none"> Estimate and read time with an increasing accuracy to the nearest minute; record and compare time in terms of seconds, minute and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events (for example to calculate the time taken by particular events or tasks). | <ul style="list-style-type: none"> Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. | <p>rectilinear shapes in centimetres and metres.</p> <ul style="list-style-type: none"> Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. Estimate volume (for example, using 1 cm³ blocks to build cuboids (including cubes)) and capacity (for example, using water). Solve problems involving converting between units of time. Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling. | <ul style="list-style-type: none"> Convert between miles and kilometres. Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units (for example, mm³ and km³). |
| <p>Maths No Problem Focus Chapter and Sequence of Lessons</p> | <p>Textbook 1A – Chapter 9 – Length and Height</p> <ul style="list-style-type: none"> Comparing height and length Measuring length using things Measuring height and length using body parts Measuring height and length using a ruler <p>Textbook 1B – Chapter 16 – Time</p> <ul style="list-style-type: none"> Telling time to the hour Telling time to the half hour Using next, before and after Estimating duration of time Comparing time Using a calendar <p>Textbook 1B – Chapter 17 – Money</p> <ul style="list-style-type: none"> Recognising coins | <p>Textbook 2A – Chapter 5 – Length</p> <ul style="list-style-type: none"> Measuring length in meters Measuring length in centimetres Comparing length in meters Comparing length in centimetres Comparing the length of lines Solving word problems (lessons 6-8) <p>Textbook 2A – Chapter 6 – Mass</p> <ul style="list-style-type: none"> Measuring mass in kilograms Measuring mass in grams (lessons 2&3) Comparing masses of two objects Comparing the mass of three objects | <p>Textbook 3A – Chapter 5 – Length</p> <ul style="list-style-type: none"> writing length in metres and centimetres writing length in centimetres writing length in metres writing length in kilometres and metres comparing length solving word problems (lessons 6-10) <p>Textbook 3A – Chapter 6 – Mass</p> <ul style="list-style-type: none"> reading weighing scales (lessons 1-4) solving word problems (lessons 5-7) <p>Textbook 3A – Chapter 7 – Volume</p> <ul style="list-style-type: none"> measuring volume in millilitres measuring capacity in millilitres | <p>Textbook 4A – Chapter 7 – Time</p> <ul style="list-style-type: none"> Telling time on a 24-hour clock Changing time in minutes to seconds Changing time in hours to minutes Solving problems on duration of time Changing years to months and weeks to days Solving word problems <p>Textbook 4B – Chapter 9 – Money</p> <ul style="list-style-type: none"> Writing amounts of money (lessons 1&2) Comparing amounts of money Rounding amounts of money Solving problems involving money (lessons 5-7) Estimating amount of money | <p>Textbook 5A – Chapter 4 – Whole number: word problems</p> <ul style="list-style-type: none"> Solving word problems (lessons 1-4) <p>Textbook 5B – Chapter 11 – Measurements</p> <ul style="list-style-type: none"> Converting units of length (lessons 1-4) Converting units of mass (lessons 5-8) Converting units of time (lessons 9-13) Telling the temperature <p>Textbook 5B – Chapter 12 – Area and perimeter</p> <ul style="list-style-type: none"> Finding the perimeter (lessons 1-3) Using scale diagrams to find the perimeter Measuring the area (lessons | |

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| | <ul style="list-style-type: none"> • Recognising notes <p>Textbook 1B – Chapter 18 – Volume and Capacity</p> <ul style="list-style-type: none"> • Comparing volume and capacity • Finding volume and capacity • Describing volume using half and a quarter <p>Textbook 1B – Chapter 19 - Mass</p> <ul style="list-style-type: none"> • Comparing mass • Finding mass | <ul style="list-style-type: none"> • Solving word problems • Solving more word problems <p>Textbook 2A – Chapter 7 – Temperature</p> <ul style="list-style-type: none"> • reading temperature • estimating temperature <p>Textbook 2B – Chapter 10 – Money</p> <ul style="list-style-type: none"> • writing amounts of money • counting money (lessons 2-4) • showing equal amounts of money • exchanging money • comparing amounts of money • calculating total amount • calculating change • solving word problems <p>Textbook 2B – Chapter 14 – Time</p> <ul style="list-style-type: none"> • telling and writing time to 5 minutes • telling and writing time • sequencing events • drawing clock hands • finding durations of time (lessons 5&6) • finding ending times (lessons 7&8) • finding starting times (lessons 9&10) • comparing time <p>Textbook 2B – Chapter 15 – Volume</p> <ul style="list-style-type: none"> • comparing volume (lessons 1&2) • measuring volume in litres • measuring volume in millilitres • solving word problems (lessons 5-7) | <ul style="list-style-type: none"> • measuring volume in millilitres and litres • measuring capacity in millilitres and litres • writing volume in litres and millilitres • writing capacity in litres and millilitres • solving word problems (lessons 7-10) <p>Textbook 3B – Chapter 8 – Money</p> <ul style="list-style-type: none"> • naming amounts of money (lessons 1&2) • showing amounts of money • adding money (lessons 4-7) • subtracting money (lessons 8-11) • calculating change • solving word problems (lessons 13&14) <p>Textbook 3B – Chapter 9 – Time</p> <ul style="list-style-type: none"> • telling the time (lessons 1-7) • measuring and comparing time in seconds • measuring time in seconds (lessons 9&10) • measuring time in hours (lessons 11-13) • measuring time in minutes (lessons 14-16) • changing minutes to seconds • changing seconds to minutes • finding number of days (lessons 19&20) <p>Textbook 3B – Chapter 14 – Perimeter of figures</p> <ul style="list-style-type: none"> • Measuring total length around a shape • Measuring perimeter (lessons 2-5) • Calculating perimeter (lessons | <p>Textbook 4B – Chapter 10 – Mass, volume and length</p> <ul style="list-style-type: none"> • Measuring mass (lessons 1&2) • Converting units of mass • Measuring volume (lessons 4&5) • Converting units of volume • Measuring height (lessons 7&8) • Converting units of length (lessons 9&10) • Measuring perimeters in different units • Solving problems involving scale reading <p>Textbook 4B – Chapter 11 – Area of figures</p> <ul style="list-style-type: none"> • Measuring the surface that an object covers • Measuring area (lessons 2-6) | <p>5-11)</p> <p>Textbook 5B – Chapter 13 – Volume</p> <ul style="list-style-type: none"> • Understanding the volume of solids • Finding the volume of solids (lessons 2&3) • Finding the capacity of rectangular boxes (lessons 4&5) • Converting units of volume (lessons 6-8) • Solving word problems involving volume (lessons 9&10) | |
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| Knowledge | <ul style="list-style-type: none"> Length is a measure of how long something is from end to end. Height is a measure of how high something is from head to foot or top to base. Mass or weight is the measure of the amount of something and how heavy it is. Capacity is how much a container can hold. Volume is the space that water takes up in a container. Time can be described using these words: quicker, slower, earlier and later. Length is a measure of how long something is from end to end. Height is a measure of how high something is from head to foot or top to base. Mass or weight is the measure of the amount of something and how heavy it is. Capacity is how much a container can hold. Volume is the space that water takes up in a container. Time can be measured using hours, minutes and seconds. Events can be sequenced using these words: before, after, now, next, first, today, yesterday, tomorrow, morning, afternoon, evening, earlier and later. The past refers to events that have already happened. The present refers to events that are happening now. The future refers to events | <ul style="list-style-type: none"> Estimate means to have a sensible guess. Estimating is calculating the approximate amount, size or value of something. A scale is a set of numbers on measuring equipment that is used to show the value or size of something. Length, width and height can be measured in metres or centimetres. There are 100cm in 1m. Mass can be measured in kilograms or grams. There are 1000g in 1kg. Temperatures can be measured in degrees Celsius. 0°C is the freezing point of water and 100°C is the boiling point of water. Capacity can be measured in litres or millilitres. There are 1000ml in 1L. Length is a measure of how long something is from end to end. Height is a measure of how high something is from head to foot or top to base. Mass or weight is the measure of the amount of something and how heavy it is. Capacity is how much a container can hold. Volume is the measure of the space something takes up. Equals shows that things on both sides of it have or should have the same value. Less than shows that the value to the left of it is lower than the value to the right of | <ul style="list-style-type: none"> Length, width and height can be measured in metres and centimetres. There are 100cm in 1m. Mass can be measured in kilograms or grams. There are 1000g in 1kg. Temperatures can be measured in Celsius. 0°C is the freezing point of water and 100°C is the boiling point of water. Capacity can be measured in litres and millilitres. There are 1000ml in 1l. The perimeter is the total distance around the edge of a shape. Money can be measured in pounds and pence. There are 100p in £1. In Roman numerals I=1, II=2, III=3, IV=4, V=5, VI=6, VII=7, VIII=8, IX=9, X=10, XI=11 and XII=12. O'clock is used after a number from 1 to 12 to give the time when it is exactly that hour. A time is in the morning if it is followed by 'am' and in the afternoon if it is followed by 'pm'. Noon is 12pm and midnight is 12am. There are 60 seconds in a minute, 60 minutes in an hour and 24 hours in a day. There are 365 days in a year and 366 in a leap year which occurs every fourth year. The months of the year are January (31 days), February (28 or 29 days), March (31 days), April (30 days), May (31 | <ul style="list-style-type: none"> There are 100cm in 1m. There are 1000m in 1km. There are 1000g in 1kg. There are 1000ml in 1l. Kilo is derived from a Greek word meaning thousand. Perimeter is the total distance around the edge of a shape. Area is the amount of space inside the boundary of a 2-D object or face of a 3-D object. There are 60 minutes in an hour and 60 seconds in a minute. There are 7 days in a week, between 28 and 31 days in a month, 365 days in a year and 366 in a leap year, which occurs every fourth year. | <ul style="list-style-type: none"> There are 10mm in 1cm, 100cm in 1m and 1000m in 1km. There are 1000g in 1kg. There are 1000ml in 1l. Kilo is derived from a Greek word meaning thousand. Imperial units of measurement were used in Britain from the 1820's to the 1960's when the metric system, using multiples of 10, was adopted. 1 inch = 2.5 cm. 1 foot = 12 inches = 30cm (approximately). 1 yard = 3 feet = 914cm (approximately 1m). 1 mile = 1760 yards = 1.6km. 1 ounce = 28g. 1 pound = 16 ounces = 453g (approximately ½ kg). 1 stone = 14 pounds = 6.4kg. 1 pint = 568ml (approximately ½ l). 1 gallon = 8 pints = 4.5l. Perimeter is the total distance around the edge of a shape. A composite shape is made of two or more rectilinear figures (polygons with interior angles of 90° or 270°, including squares). The area of a rectangle (including squares) is calculated by multiplying its height by its width. Standard units of area are square centimetres or centimetres squared (cm²) and square metres or metres squared (m²). Capacity is a measure of how | <ul style="list-style-type: none"> |

Maths

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| | <p>that haven't happened yet.</p> <ul style="list-style-type: none"> • There are seven days in a week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. • There are twelve months in a year: January, February, March, April, May, June, July, August, September, October, November and December. • There are four seasons in a year: Spring, Summer, Autumn and Winter. • The hour hand is the shorter hand on a clock and the minute hand is the longer hand. • On an analogue clock, the minute hand points to 12 when it is an o'clock time and points to 6 when it is half past the hour. | <p>it.</p> <ul style="list-style-type: none"> • Greater than shows that the value to the left of it is higher than the value to the right of it. • Money can be measured in pounds and pence. • There are 100p in £1. • Change is the money returned to someone when they have paid for an item with an amount that is greater than the price. • An analogue clock face can be divided into 60 minutes. It often shows 5 minute intervals using the numbers from 1 to 12 on the face. • The hour hand is the shorter hand on a clock and the minute hand is the longer hand on a clock. • Clockwise is the movement round a clock from left to right and hands move in a clockwise direction. • On an analogue clock, the minute hand points to 12 when it is an o'clock time and points to 6 when it is half past the hour. • The minute hand points towards the 3 at quarter past and 9 at quarter to the hour. • There are 60 seconds in a minute, 60 minutes in an hour and 24 hours in a day. | <p>days), June (30 days), July (31 days), August (31 days), September (30 days), October (31 days), November (30 days) and December (31 days).</p> <ul style="list-style-type: none"> • Duration is the length of time something lasts. | | <p>much something can hold.</p> <ul style="list-style-type: none"> • Volume is the measure of the space that an object or liquid takes up. • There are 60 minutes in an hour and 60 seconds in a minute. • There are 7 days in a week, between 28 and 31 days in a month, 365 days in a year and 366 in a leap year, which occurs every fourth year. | |
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| STATISTICS | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | | <ul style="list-style-type: none"> • Interpret and construct simple pictograms, tally charts, block diagrams and | <ul style="list-style-type: none"> • Interpret and present data using bar charts, pictograms and tables. | <ul style="list-style-type: none"> • Interpret and present discrete and continuous data using appropriate graphical methods, | <ul style="list-style-type: none"> • Solve comparison, sum and difference problems using information presented in a | <ul style="list-style-type: none"> • Interpret and construct pie charts and line graphs and use these to solve |

Maths

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| | | <p>simple tables.</p> <ul style="list-style-type: none"> Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. | <ul style="list-style-type: none"> 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. | <p>including bar charts and time graphs.</p> <ul style="list-style-type: none"> Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. | <p>line graph.</p> <ul style="list-style-type: none"> Complete, read and interpret information in tables, including timetables. | <ul style="list-style-type: none"> Calculate and interpret the mean as an average. |
| Maths No Problem Focus Chapter and Sequence of Lessons | | <p>Textbook 2A – Chapter 8 – Picture Graphs</p> <ul style="list-style-type: none"> Reading picture graphs (lessons 1-5) | <p>Textbook 3B – Chapter 10 – Picture graphs and bar graphs</p> <ul style="list-style-type: none"> Drawing picture graphs Drawing bar graphs Reading bar graphs (lessons 3-5) | <p>Textbook 4A – Chapter 5 – Graphs</p> <ul style="list-style-type: none"> Drawing and reading picture graphs and bar graphs Drawing and reading bar graphs (lessons 2-5) | <p>Textbook 5A – Chapter 5 – Graphs</p> <ul style="list-style-type: none"> Reading tables (lessons 1-3) Reading line graphs (lessons 4-7) | |
| Knowledge | <ul style="list-style-type: none"> | <ul style="list-style-type: none"> Data is facts and figures. A table in maths is a way to set out data so it is easy to record and see. Tally marks are a quick way of keeping track of numbers in groups of five. A pictogram uses pictures to represent data. | <ul style="list-style-type: none"> Data is facts and figures. A table in maths is a way to set out data so it is easy to record and see. Tally marks are a quick way of keeping track of numbers in groups of five. A pictogram uses pictures to represent data. | <ul style="list-style-type: none"> Discrete data can only be shown in integers, for example, the number of children in a class. Continuous data can take any value, including decimals. | <ul style="list-style-type: none"> | <ul style="list-style-type: none"> |

| RATIO AND PORPORTION | | | | | | |
|----------------------|--------|--|--|--|--|--|
| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | | <ul style="list-style-type: none"> | <ul style="list-style-type: none"> Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can |

Maths



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| | | | | | | be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. |
| Maths No Problem Focus Chapter and Sequence of Lessons | • | | | | | |
| Knowledge | | • | • | • | • | • |

| ALGEBRA | | | | | | |
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| Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| NC 2014 Objectives | | • | • | • | • | <ul style="list-style-type: none"> • Use simple formulae • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables. • |
| Maths No Problem | | | | | | |

Maths



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| Focus Chapter and Sequence of Lessons | | | | | | |
| Knowledge | | • | • | • | • | • |