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|  | sT. mARY’S CATHOLIC PRIMARY SCHOOL  Progression in knowledge and skills  Mathematics |

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| **Intent**  Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology, and engineering. Crucially, a sound knowledge of Mathematics is vital for young people seeking employment and securing a qualification in mathematics is a fundamental requirement for most employers. A high-quality mathematics education therefore provides a foundation for understanding the world and the ability to reason mathematically. At St. Mary’s we aim to ensure that mathematics is a high profile subject that develops children’s ability to reason mathematically, problem solve and develop procedural fluency and conceptual understanding in each strand of the curriculum.  In line with the National Curriculum Objectives for Mathematics, our intent is that all pupils:   * become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately * reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language * can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.   Mathematics is an interconnected subject in which children need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct strands, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning, and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects. The structure of the mathematics curriculum across school shows clear progression in line with age related expectations. A concrete, pictorial, abstract approach provides children with a clear structure in which they can develop their depth of understanding of mathematical concepts.  **Implementation**  At St. Mary’s there is an emphasis on the teaching of mathematics through real life, models and images and practical equipment playing an integral role in the development and understanding of developing new knowledge, skills and concepts. Resources and equipment are audited regularly so that children have materials of high quality and accuracy to support and develop their learning of new concepts. Children are familiar with these resources and can access them independently where needed. Our schools resources enable teachers to support learning in each area and enable the progression from concrete to pictorial to abstract through the use of models and images.  Stuck lines and stuck mats that include key vocabulary and age appropriate progressive methods are displayed clearly in classrooms and are referred to in every lesson. Teachers also implement the schools agreed calculation policy for progression in calculation along with a differentiated knowledge and skills document taken directly from the National Curriculum expectations. Mathematics teaching offers a broad balance of children working with number, all four calculations and a range of topics.  Fluency is developed through repeating, reinforcing and revising key skills; regular arithmetic takes place in all classes. Children are given time to practice and perfect a range of calculation strategies including giving pupils the opportunity to make appropriate decisions when estimating, calculating and evaluating the effectiveness of their chosen methods.  White Rose is used to support teachers in planning and developing a sequence of lessons that enables children to cover different areas of the mathematics curriculum. Alongside the White Rose materials, we use many other resources to ensure that our offer is rich and varied so that the children are exposed to a variety of different types of learning and to ensure coverage of fluency, problem solving and reasoning in different formats.  Teachers are supported and aided in their teaching of mathematics through appropriate high quality CPD ensuring confidence in the knowledge and skills that they are required to teach. Regular quality CPD is provided through the subject leader, external courses, collaborative working and external CPD offers from mathematics specialists. All staff are encouraged to raise questions, seek support and request further training if needed in order to ensure everyone is confident in the teaching of mathematics. Good practice is always shared between staff and all CPD is used to inform teaching and learning across school.  Teachers employ various assessments for learning strategies, including whiteboards, number fans, group discussions and paired work. These strategies promote increased thinking time when responding to the teacher’s questions. Children have regular opportunities to work both collaboratively and independently when solving problems which require them to persevere and develop resilience, which is also one of our school’s Three R’s. NFER tests are used as a termly assessment tool that helps teachers to gather an understanding of their pupil’s existing and developing knowledge and skills. Timetabled interventions for maths are in place for children with SEND; all other children receive regular group support as part of their mathematics lessons and daily with further support for individuals or small groups where a need is identified.  **Impact**  The impact of our Mathematics curriculum is that children are understanding the relevance and importance of what they are learning in relation to real life and real world concepts. Children know that Mathematics is a vital life skill that they will rely on in many areas of their daily life.  Mathematics lessons are engaging and well-resourced with the pupils acknowledging that the journey to finding an answer is the most important factor. Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times tables.  Children’s books evidence work of a high standard of which children clearly take pride; the components of the teaching sequences demonstrate good coverage of fluency, reasoning and problem solving and children are developing the ability to make connections between mathematical topics through the use of well-planned sequences of learning. Children are able to independently apply their knowledge to a range of increasingly complex problems.  Daily feedback, assessments and interventions support children to strive to be the best mathematicians they can be. Our children are resilient and they make measurable progress against the National Curriculum objectives. End of year and key stage attainment is broadly in line or better with national expectations. | | | | | | | |
| |  | | --- | |  |   **Number – number and place value** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Counting** | **verbally count beyond 20, recognising the pattern of the counting system** | **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** | count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward | count from 0 in multiples of 4, 8, 50 and 100;  **find 10 or 100 more or less than a given number** | count backwards through zero to include negative numbers  count in multiples of 6, 7, 9, 25 and 1 000  **find 1 000 more or less than a given number** | **interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero**  **count forwards or backwards in steps of powers of 10 for any given number up to**  **1 000 000** | **use negative numbers in context, and calculate intervals across zero** |
| **Comparing numbers** | **compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity** | **use the language of: equal to, more than, less than (fewer), most, least** | **compare and order numbers from 0 up to 100; use <, > and = signs** | **compare and order numbers up to 1 000** | **order and compare numbers beyond 1 000**  ***compare numbers with the same number of decimal places up to two decimal places***  *(copied from Fractions)* | **read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit**  *(appears also in Reading and Writing Numbers)* | **read, write, order and compare numbers up to**  **10 000 000 and determine the value of each digit** *(appears also in Reading and Writing Numbers)* |
| **Identifying, representing and estimating numbers** | subitise (recognise quantities without counting) up to 5  **explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally** | **identify and represent numbers using objects and pictorial representations including the number line** | **identify, represent and estimate numbers using different representations, including the number line** | **identify, represent and estimate numbers using different representations** | **identify, represent and estimate numbers using different representations** |  |  |
| **Reading and writing numbers** | **link the number symbol (numeral) with its cardinal number value** *(Development Matters: Non-statutory curriculum guidance)* | read and write numbers from 1 to 20 in numerals and words | read and write numbers to at least 100 in numerals and in words | read and write numbers up to 1 000 in numerals and in words  *tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks*  *(copied from Measurement)* | **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** | **read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit**  *(appears also in Comparing Numbers)*  **read Roman numerals to 1 000 (M) and recognise years written in Roman numerals** | **read, write, order and compare numbers up to**  **10 000 000 and determine the value of each digit**  *(appears also in Understanding Place Value)* |
| **Understanding place value** | **have a deep understanding of number to 10, including the composition of each number** |  | **recognise the place value of each digit in a two-digit number (tens, ones)** | **recognise the place value of each digit in a three-digit number (hundreds, tens, ones)** | **recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)**  ***find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths***  *(copied from Fractions)* | **read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit**  *(appears also in Reading and Writing Numbers)*  ***recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents***  *(copied from Fractions)* | **read, write, order and compare numbers up to**  **10 000 000 and determine the value of each digit** *(appears also in Reading and Writing Numbers)*  ***identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and***  ***1 000 where the answers are up to three decimal places*** *(copied from Fractions)* |
| **Rounding** |  |  |  |  | **round any number to the nearest 10, 100 or 1 000**  ***round decimals with one decimal place to the nearest whole number***  *(copied from Fractions)* | **round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000**  ***round decimals with two decimal places to the nearest whole number and to one decimal place***  *(copied from Fractions)* | **round any whole number to a required degree of accuracy**  ***solve problems which require answers to be rounded to specified degrees of accuracy*** *(copied from Fractions)* |
| **Problem solving** |  |  | **use place value and number facts to solve problems** | **solve number problems and practical problems involving these ideas** | **solve number and practical problems that involve all of the above and with increasingly large positive numbers** | **solve number problems and practical problems that involve all of the above** | **solve number and practical problems that involve all of the above** |
| **Number – addition and subtraction** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Number bonds** | automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts | **represent and use number bonds and related subtraction facts within 20** | **recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100** |  |  |  |  |
| **Mental calculation** |  | **add and subtract one-digit and two-digit numbers to 20, including zero**  **read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs**  *(appears also in Written Methods)* | **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**  **show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot** | **add and subtract numbers mentally, including:**   * **a three-digit number and ones** * **a three-digit number and tens** * **a three-digit number and hundreds** |  | **add and subtract numbers mentally with increasingly large numbers** | **perform mental calculations, including with mixed operations and large numbers**  **use their knowledge of the order of operations to carry out calculations involving the four operations** |
| **Written methods** | **understand the ‘one more than/one less than’ relationship between consecutive numbers** (Development Matters: Non-statutory curriculum guidance) | **read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs**  *(appears also in Mental Calculation)* |  | **add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction** | **add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate** | **add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)** |  |
| **Inverse operations, estimating and checking answers** |  |  | **recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems** | **estimate the answer to a calculation and use inverse operations to check answers** | **estimate and use inverse operations to check answers to a calculation** | **use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy** | **use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy** |
| **Problem solving** |  | **solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as**  **7 = 🗆 - 9** | **solve problems with addition and subtraction:**   * **using concrete objects and pictorial representations, including those involving numbers, quantities and measures**   **applying their increasing knowledge of mental and written methods**  ***solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change***(*copied from Measurement)* | **solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction** | **solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why** | **solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why** | **solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why**  **solve problems involving addition, subtraction, multiplication and division** |
| **Number – multiplication and division** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Multiplication and division facts** | automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, **including double facts**  *(copied from Number – addition and subtraction)*  **explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally**  *(copied from Number and Place Value)* | *count in multiples of twos, fives and tens*  *(copied from Number and Place Value)* | ***count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward***  *(copied from Number and Place Value)*  **recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers** | *count from 0 in multiples of 4, 8, 50 and 100*  *(copied from Number and Place Value)*  **recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables** | *count in multiples of 6, 7, 9, 25 and 1 000*  *(copied from Number and Place Value)*  recall multiplication and division facts for multiplication tables up to 12 × 12 | ***count forwards or backwards in steps of powers of 10 for any given number up to***  ***1 000 000***  *(copied from Number and Place Value)* |  |
| **Mental calculation** |  |  | **show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot** | **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** *(appears also in Written Methods)* | **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** *(appears also in Properties of Numbers)* | **multiply and divide numbers mentally drawing upon known facts**  **multiply and divide whole numbers and those involving decimals by 10, 100 and 1000** | **perform mental calculations, including with mixed operations and large numbers**  ***associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)***  *(copied from Fractions)* |
| **Written calculation** |  |  | **calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs** | **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** *(appears also in Mental Methods)* | **multiply two-digit and three-digit numbers by a one-digit number using formal written layout** | **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**  **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 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 short division where appropriate for the context 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**  ***use written division methods in cases where the answer has up to two decimal places*** *(copied from Fractions (including decimals)* |
| **Properties of numbers: multiples, factors, primes, square and cube numbers** | explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally  *(copied from Number and Place Value)* |  |  |  | **recognise and use factor pairs and commutativity in mental calculations** | **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 (non-prime) numbers**  **establish whether a number up to 100 is prime and recall prime numbers up to 19**  **recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)** | **identify common factors, common multiples and prime numbers**  ***use common factors to simplify fractions; use common multiples to express fractions in the same denomination***  *(copied from Fractions)*  ***calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3***  *(copied from Measures)* |
| **Order of operations** |  |  |  |  |  |  | **use their knowledge of the order of operations to carry out calculations involving the four operations** |
| **Inverse operations, estimating and checking answers** |  |  |  | ***estimate the answer to a calculation and use inverse operations to check answers*** *(copied from Addition and Subtraction)* | ***estimate and use inverse operations to check answers to a calculation***  *(copied from Addition and Subtraction)* |  | **use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy** |
| **Problem solving** |  | **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** | **solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts** | **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** | **solve problems involving multiplying and adding, including using the distributive 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** | **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** | **solve problems involving addition, subtraction, multiplication and division**  ***solve problems involving similar shapes where the scale factor is known or can be found***  *(copied from Ratio and Proportion)* |
| **Number – fractions (including decimals and percentages)** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Counting in fractional steps** |  |  |  | count up and down in tenths | count up and down in hundredths |  |  |
| **Recognising fractions** |  | **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** | **recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity** | **recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators**  **recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10**  **recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators** | **recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten** | **recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents**  *(appears also in Equivalence)* |  |
| **Comparing fractions** |  |  |  | **compare and order unit fractions, and fractions with the same denominators** |  | **compare and order fractions whose denominators are all multiples of the same number** | **compare and order fractions, including fractions >1** |
| **Comparing decimals** |  |  |  |  | **compare numbers with the same number of decimal places up to two decimal places** | **read, write, order and compare numbers with up to three decimal places** | **identify the value of each digit in numbers given to three decimal places** |
| **Rounding including decimals** |  |  |  |  | **round decimals with one decimal place to the nearest whole number** | **round decimals with two decimal places to the nearest whole number and to one decimal place** | **solve problems which require answers to be rounded to specified degrees of accuracy** |
| **Equivalence (including fractions, decimals and percentages)** |  |  | **write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.** | **recognise and show, using diagrams, equivalent fractions with small denominators** | **recognise and show, using diagrams, families of common equivalent fractions**  **recognise and write decimal equivalents of any number of tenths or hundredths**  **recognise and write decimal equivalents to 1/4; 1/2; 3/4** | **identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths**  **read and write decimal numbers as fractions (e.g. 0.71 = 71/100)**  **recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents**  **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 as a decimal fraction** | **use common factors to simplify fractions; use common multiples to express fractions in the same denomination**  **associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)**  **recall and use equivalences between simple fractions, decimals and percentages, including in different contexts** |
| **Addition and subtraction of fractions** |  |  |  | add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7) | add and subtract fractions with the same denominator | add and subtract fractions with the same denominator and multiples of the same number  **recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5)** | **add and subtract fractions with different denominators and mixed numbers, using the**  **concept of equivalent fractions** |
| **Multiplication and division of fractions** |  |  |  |  |  | **multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams** | **multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8)**  **multiply one-digit numbers with up to two decimal places by whole numbers**  **divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6 )** |
| **Multiplication and division of decimals** |  |  |  |  | **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** |  | **multiply one-digit numbers with up to two decimal places by whole numbers**  multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places  **identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100**  **and 1000 where the answers are up to three decimal places**  **associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction**  **(e.g. 3/8)**  **use written division methods in cases where the answer has up to two decimal places** |
| **Problem solving** |  |  |  | **solve problems that involve all of the above** | **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**  **solve simple measure and money problems involving fractions and decimals to two decimal places** | **solve problems involving numbers up to three decimal places**  **solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25** |  |
| **Measurement** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Comparing and estimating** | **compare length, weight and capacity**  (Development Matters: Non-statutory curriculum guidance) | **compare, describe and solve practical problems for:**   * **lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half]** * **mass/weight [e.g. heavy/light, heavier than, lighter than]** * **capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter]**   **time [e.g. quicker, slower, earlier, later]**  **sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]** | **compare and order lengths, mass, volume/capacity and record the results using >, < and =**  **compare and sequence intervals of time** | **compare durations of events, for example to calculate the time taken by particular events or tasks**  **estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o’clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)** | **estimate, compare and calculate different measures, including money in pounds and pence**  **(also included in Measuring)** | **calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes** *(also included in measuring)*  **estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water)** | **calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3** |
| **Measuring and calculating** |  | **measure and begin to record the following:**   * **lengths and heights** * **mass/weight** * **capacity and volume** * **time (hours, minutes, seconds)**   **recognise and know the value of different denominations of coins and notes** | **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**  recognise and use symbols for pounds **(£) and pence (p)**; **combine amounts to make a particular value**  **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** | **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** | **estimate, compare and calculate different measures, including money in pounds and pence**  *(appears also in Comparing)*  **measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres**  find the area of rectilinear shapes by counting squares | **use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling**  **measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres**  **calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes**  ***recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)***  *(copied from Multiplication and Division)* | **solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate**  *(appears also in Converting)*  **recognise that shapes with the same areas can have different perimeters and vice versa**  **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 [e.g. mm3 and km3]**  **recognise when it is possible to use formulae for area and volume of shapes** |
| **Telling the time** |  | **tell the time to the hour and half past the hour and draw the hands on a clock face to show these times**  **recognise and use language relating to dates, including days of the week, weeks, months and years** | **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.  *(appears also in Converting)* | **tell and write the time from an analogue clock,** including using Roman numerals from I to XII, and 12-hour and 24-hour clocks  **estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o’clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight**  *(appears also in Comparing and Estimating)* | **read, write and convert time between analogue and digital 12 and 24-hour clocks**  *(appears also in Converting)*  **solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days**  *(appears also in Converting)* | **solve problems involving converting between units of time** |  |
| **Converting** |  |  | *know the number of minutes in an hour and the number of hours in a day.*  *(appears also in Telling the Time)* | know the number of seconds in a minute and the number of days in each month, year and leap year | **convert between different units of measure (e.g. kilometre to metre; hour to minute)**  ***read, write and convert time between analogue and digital 12 and 24-hour clocks***  *(appears also in Converting)*  ***solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days***  *(appears also in Telling the Time)* | **convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)**  **solve problems involving converting between units of time**  **understand and use equivalences between metric units and common imperial units such as inches, pounds and pints** | **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 three decimal places**  ***solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate***  *(appears also in Measuring and Calculating)*  **convert between miles and kilometres** |
| **Geometry – properties of shapes** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Identifying shapes and their properties** | **select, rotate and manipulate shapes to develop spatial reasoning skills**  *(Development Matters: Non-statutory curriculum guidance)* | **recognise and name common 2-D and 3-D shapes, including:**   * **2-D shapes [e.g. rectangles (including squares), circles and triangles]** * **3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]** | **identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line**  **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]** |  | **identify lines of symmetry in 2-D shapes presented in different orientations** | **identify 3-D shapes, including cubes and other cuboids, from 2-D representations** | **recognise, describe and build simple 3-D shapes, including making nets**  *(appears also in Drawing and Constructing)*  **illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius** |
| **Drawing and constructing** | **compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can**  *(Development Matters: Non-statutory curriculum guidance)* |  |  | **draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them** | **complete a simple symmetric figure with respect to a specific line of symmetry** | **draw given angles, and measure them in degrees (o)** | **draw 2-D shapes using given dimensions and angles**  **recognise, describe and build simple 3-D shapes, including making nets** *(appears also in Identifying Shapes and Their Properties)* |
| **Comparing and classifying** |  |  | **compare and sort common 2-D and 3-D shapes and everyday objects** |  | **compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes** | **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** | **compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons** |
| **Angles** |  |  |  | **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 make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle**  **identify horizontal and vertical lines and pairs of perpendicular and parallel lines** | **identify acute and obtuse angles and compare and order angles up to two right angles by size** | **know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles**  **identify:**   * **angles at a point and one whole turn (total 360o)** * **angles at a point on a straight line and ½ a turn (total 180o)** * **other multiples of 90o** | **recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles** |
| **Geometry – position and direction** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Position, direction and movement** |  | **describe position, direction and movement, including half, quarter and three-quarter turns** | **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)** |  | **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** | **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** | **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** |
| **Pattern** | **continue, copy and create repeating patterns**  *(Development Matters: Non-statutory curriculum guidance)* |  | **order and arrange combinations of mathematical objects in patterns and sequences** |  |  |  |  |
| **Statistics** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Interpreting, constructing and presenting data** |  |  | **interpret and construct simple pictograms, tally charts, block diagrams and simple tables**  **ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity**  **ask and answer questions about totalling and comparing categorical data** | **interpret and present data using bar charts, pictograms and tables** | **interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs** | **complete, read and interpret information in tables, including timetables** | **interpret and construct pie charts and line graphs and use these to solve problems** |
| **Solving problems** |  |  |  | **solve one-step and two-step questions [e.g. ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables** | **solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs** | **solve comparison, sum and difference problems using information presented in a line graph** | **calculate and interpret the mean as an average** |
| **Ratio and proportion** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division** |  |  |  |  |  |  | **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 be found**  **solve problems involving unequal sharing and grouping using knowledge of fractions and multiples** |
| **Algebra** | | | | | | | |
|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Equations** |  | ***solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as***  ***7 = 🗆 - 9***  *(copied from Addition and Subtraction)*  ***represent and use number bonds and related subtraction facts within 20***  *(copied from Addition and Subtraction)* | ***recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.***  *(copied from Addition and Subtraction)*  ***recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100***  *(copied from Addition and Subtraction)* | ***solve problems, including missing number problems, using number facts, place value, and more******complex addition and subtraction*** *(copied from Addition and Subtraction)*  ***solve problems, including missing number problems, involving multiplication and division, including integer scaling***  *(copied from*  *Multiplication and Division)*  ***solve problems, including missing number problems, involving multiplication and division, including integer scaling***  *(copied from*  *Multiplication and Division)* |  | ***use the properties of rectangles to deduce related facts and find missing lengths and angles***  *(copied from Geometry: Properties of Shapes)* | **express missing number problems algebraically**  **find pairs of numbers that satisfy number sentences involving two unknowns**  **enumerate all possibilities of combinations of two variables** |
| **Formulae** |  |  |  |  |  |  | **use simple formulae**  ***recognise when it is possible to use formulae for area and volume of shapes***  *(copied from Measurement)* |
| **Sequences** |  | ***sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening***  *(copied from Measurement)* | ***compare and sequence intervals of time***  *(copied from Measurement)*  ***order and arrange combinations of mathematical objects in patterns***  *(copied from Geometry: position and direction)* |  |  |  | **generate and describe linear number sequences** |

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| **Mathematical Vocabulary - taken from the calculation policy** | | | | | | | |
|  | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Addition**  **Basic to subject specific (Beck’s Tiers):** | add, more, make, sum, total, altogether, double, how many, how many more to make, odd and even | +, add, more, plus, make, sum, total, altogether, score, double, near double, one more, two more… ten more… How many more to make…? How many more is… than…? How much more is…? | +, add, addition, more, plus, make, sum, total, altogether, score, double, near double, one more, two more... ten more... one hundred more… how many more to make…? How many more is… than…? How much more is…? | +, add, addition, more, plus, make, sum, total, altogether, score, double, near double, one more, two more... ten more... one hundred more, How many more to make…? How many more is… than…? How much more is…? | add, addition, more, plus, increase, sum, total, altogether, score, double, near double, How many more to make…? | add, addition, more, plus, increase, sum, total, altogether, score, double, near double, How many more to make…? | add, addition, more, plus, increase, sum, total, altogether, score, double, near double, How many more to make…? |
| **NFER– language of tests and questions** |  | match, tick, draw, complete, write, circle, share, jumps, count on, use a ruler | tick, match, count, tick two, circle, write, draw, complete, use these numbers, shade, write, make, choose, circle the three, complete, write, tick all, complete the number sentence, put a digit, How many…? | estimate, write….in order, complete, circle, estimate, tick, draw, draw two, draw the arrow, show your working, use the…, what number, complete, shade, write in, true or false, tick two, circle all, write a possible, use a ruler, What numbers could be? How many are left? What is next…? What is…? How many…? Which of these | write, order, complete, draw three, write….in the boxes, show your working, use the method, write the missing, shade, write in order, tick, write your answer as…, write the letter (can be used more than once), describe, write one word, write your answer in, match, to make…you need, draw four, on which, calculate, write these numbers, use the coordinates to draw, estimate, in each box, write these values, circle the best, complete the table, round each number, draw one line, circle all, tick three, plot, Who takes…? How many? What is…? What number? | complete the sequence, circle the same as, draw four lines, circle the, circle the number that is not, circle two, write yes or no to a statement, circle all, write the, write the missing, circle the incorrect, show your method, show your working, circle three, by how much, calculate, estimate, shade, write the missing, use the diagram, complete the table, circle the number that is both, write a, b, c, d, label, true or false, order, draw a line, write the missing digits, circle true and false, What number is? Which is the closest? Which one of these must also? Who gets the most? What is the total number? | which expression, write three, complete, draw the, explain why, write each number, show your method, tick the, calculate, increase by, complete the tables, circle all, calculate, What was the…? What is the difference? How much? What are…? What is…? What could…? What number is…? Which of these…? |
| **Subtraction**  **Basic to subject specific (Beck’s Tiers):** | make, how many, how many are left, how many have gone?, one less, two less, ten less, the difference between, odd and even | take away, distance between, difference between, less than, subtract, take (away), minus, leave, one less, two less, ten less… difference, halve, equals, sign, is the same as, How many more? How much greater? How many fewer? How much more is…? How many are left/left over? How many have gone? How many fewer is… than…? How much less is…? | subtract, subtraction, take (away), minus leave, one less, two less… ten less… one hundred less, difference, halve, equals, sign, is the same as, tens boundary, difference, partition, rearrange, inverse, place value, How many are left/left over? How many fewer is… than…? How much less is…? | subtract, subtraction, take (away), minus, leave, one less, two less… ten less… one hundred less…difference between, half, halve = equals, sign, is the same as tens boundary, hundreds boundary, exchange, carried digits, How many are left/left over? How many fewer is…than…? How much less is…? | subtract, subtraction, take (away), minus, decrease, leave, difference between, half, halve, equals, sign, is the same as tens boundary, hundreds boundary, inverse, exchange, carried digits, How many are left/left over? How many more/fewer is…than…? How much more/less is…? | subtract, subtraction, take (away), minus, leave, ten less… one hundred less…difference between, half, halve, = equals, sign, is the same as tens boundary, hundreds boundary, inverse, units boundary, tenths boundary, exchange, carried digits, How many are left/left over? How many fewer is…than…? How much less is…? | subtract, subtraction, take (away), minus, decrease, leave, difference between, half, halve, = equals, sign, is the same as tens boundary, hundreds boundary, units boundary, tenths boundary, inverse, How many are left/left over? How many more/fewer is…than…? How much more/less is…? |
| **NFER– language of tests and questions** |  | match, tick, draw, complete, write, circle, share, jumps, count on, use a ruler | tick, match, count, tick two, circle, write, draw, complete, use these numbers, shade, write, make, choose, circle the three, complete, write, tick all, complete the number sentence, put a digit, How many…? | estimate, write….in order, complete, circle, estimate, tick, draw, draw two, draw the arrow, show your working, use the, complete, shade, write in, true or false, tick two, circle all, , use a ruler, write a possible, What is…? What is next? How many…? What number…? Which of these? What numbers could be…? How many are left? | write, order, complete, draw three, write….in the boxes, show your working, use the method, write the missing, shade, write in order, tick, write your answer as…, write the letter (can be used more than once), describe, write one word, write your answer in, match, to make…you need, draw four, on which, calculate, write these numbers, use the coordinates to draw, estimate, in each box, write these values, circle the best, complete the table, round each number, draw one line, circle all, tick three, plot, check, How many…? What is…? How much? What number…? Who takes…? | complete the sequence, circle the same as, draw four lines, circle the, circle the number that is not, circle two, circle two, write yes or no to a statement, circle all, write the, write the missing, circle the incorrect, show your method, show your working, circle three, by how much, calculate, estimate, shade, write the missing, use the diagram, complete the table, circle the number that is both, write a, b, c, d, label, true or false, order, draw a line, write the missing digits, circle true and false, tick two, What number is…? Which is the closest? Which one of these must also…? Who gets the most? What is the total number? | write three, complete, draw the, explain why, write each number, what is, show your method, tick the, calculate, increase by, complete the tables, circle all, calculate, What was the…? What is the difference? Which expression? How much? What is the difference? What are…? What could…? What number is? Which of these…? |
| **Multiplication**  **Basic to subject specific (Beck’s Tiers):** | make, total, altogether, double, how many, how many more to make | count in ones, twos… tens… array, groups of, equal groups, odd, even | lots of, groups of ×, times, multiply, multiplied by, multiple of once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition, array, row, column, double, halve, share, share equally | lots of, groups of ×, times, multiply, multiplication, multiplied by multiple of, product once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition, array, row, column, double, halve, share, share equally, one each, two each, three each… | lots of, groups of times, multiply, multiplication, multiplied by, multiple of, product once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition, array, row, column, double, halve, factor, multiple | lots of, groups of times, multiply, multiplication, multiplied by multiple of, product once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition, array, row, column double, halve, share, share equally, factor, multiple, prime, composite | lots of, groups of times, multiply, multiplication, multiplied by, multiple of, product once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition, array, row, column, double, halve, share, share equally, factor, multiple, prime, composite |
| **NFER– language of tests and questions** |  | match, tick, draw, complete, write, circle, share, jumps, count on, use a ruler | tick, match, count, tick two, circle, write, draw, complete, use these numbers, shade, write, make, choose, circle the three, complete, write, tick all, complete the number sentence, put a digit, How many…? | estimate, write...in order, complete, circle, estimate, tick, draw, draw two, draw the arrow, show your working, use the, complete, shade, write in, true or false, tick two, circle all, use a ruler, write a possible, What numbers could be? How many are left? What is next…? What is…? How many…? What number…? Which of these…? | write, order, complete, draw three, write….in the boxes, show your working, use the method, write the missing, shade, write in order, tick, write your answer as…, write the letter (can be used more than once), describe, write one word, write your answer in, match, to make…you need, draw four, on which, calculate, write these numbers, use the coordinates to draw, estimate, in each box, write these values, circle the best, complete the table, round each number, draw one line, circle all, tick three, plot, check, How many…? What is…? How much…? What number…? Who takes…? | complete the sequence, circle the same as, draw four lines, circle the, circle the number that is not, circle two, circle two, write yes or no to a statement, circle all, write the, write the missing, circle the incorrect, show your method, show your working, circle three, who gets the most, by how much, calculate, estimate, shade, write the missing, use the diagram, complete the table, circle the number that is both, write a, b, c, d, label, true or false, order, draw a line, write the missing digits, circle true and false, tick two, What number is? Which is the closest? Which one of these must also? What is the total number…? | write three, complete, draw the, explain why, write each number, show your method, tick the, calculate, increase by, complete the tables, circle all, calculate, What was the…? What is the difference? Which expression? How much…? What are…? What is…? What could…? What number is…? Which of these…? |
| **Division**  **Basic to subject specific (Beck’s Tiers):** | make, how many, how many more to make, equals, share, groups of, halve and half | count in ones, twos… tens… share, groups of, equal groups, dividend, divisor, odd, even | share, share equally, one each, two each, three each… group in pairs, threes… tens equal groups of ÷, divide, divided by, divided into left, left over, dividend, divisor | share, share equally one each, two each, three each… group in pairs, threes… tens equal groups of ÷, divide, division, divided by, divided into left, left over, remainder | share, share equally one each, two each, three each… group in pairs, threes… tens equal groups of ÷, divide, division, divided by, divided into left, left over, remainder, dividend, divisor | equal groups of, divide, division, divided by, divided into, remainder, factor, quotient, divisible by inverse | equal groups of, divide, division, divided by, divided into, remainder, factor, quotient, divisible by inverse, remainders as fractions or decimals |
| **NFER– language of tests and questions** |  | match, tick, draw, complete, write, circle, share, jumps, count on, use a ruler | tick, match, count, tick two, circle, write, draw, complete, use these numbers, shade, write, make, choose, circle the three, complete, write, tick all, complete the number sentence, put a digit, How many? | estimate, write….in order, complete, circle, estimate, tick, draw, draw two, draw the arrow, show your working, use the, complete, shade, write in, true or false, tick two, circle all, use a ruler, write a possible, What numbers could be…? How many are left? What is? How many? What number…? What is next? Which of these…? | write, order, complete, draw three, write….in the boxes, show your working, use the method, write the missing, shade, write in order, tick, write your answer as…, write the letter (can be used more than once), describe, write one word, write your answer in, match, to make…you need, draw four, on which, calculate, write these numbers, use the coordinates to draw, estimate, in each box, write these values, circle the best, complete the table, round each number, draw one line, circle all, tick three, plot, check, How many? What is? How much…? What number…? Who takes…? | complete the sequence, circle the same as, draw four lines, circle the, circle the number that is not, circle two, circle two, write yes or no to a statement, circle all, write the, write the missing, circle the incorrect, show your method, show your working, circle three, by how much, calculate, estimate, shade, write the missing, use the diagram, complete the table, circle the number that is both, write a, b, c, d, label, true or false, order, draw a line, write the missing digits, circle true and false, tick two, What number is? Which is the closest? Which one of these must also…? Who gets the most…? What is the total number? | write three, complete, draw the, explain why, what are, write each number, show your method, tick the, calculate, increase by, complete the tables, circle all, calculate, What was the…? What is the difference? Which expression? How much? What is? What could? What number is? Which of these…? |

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| **Mathematical Vocabulary** | | | | | | | |
|  | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Number and Place Value** | **Number**  zero  number  one, two, three…to twenty and beyond  teens numbers, eleven, twelve… twenty  none  How many …?  count, count (up) to, count on (from, to), count back (from, to)  count in ones, twos, fives, tens  …is the same as…  more, less  odd, even  few  pattern  pair | **Number**  number  **numeral**  zero  one, two, three … twenty  teens numbers, eleven, twelve … twenty  **twenty-one, twenty-two … one hundred**  none  How many…?  count, count (up) to, count on (from, to), count back (from, to)  **forwards**  **backwards**  count in ones, twos, fives, tens  **equal to**  **equivalent to**  is the same as  more, less  **most, least**  **many**  odd, even  **multiple of**  few  pattern  pair | **Number**  number  numeral  zero  one, two, three…twenty  teens numbers, eleven, twelve…twenty  twenty-one, twenty-two… one hundred, **two hundred …one thousand**  none  How many…?  count, count (up) to, count on (from, to), count back (from, to)  forwards, backwards  count in ones, twos, fives, tens, **threes, fours and so on**  equal to  equivalent to  is the same as  more, less  most, least  **tally**  many  odd, even  multiple of  **sequence**  **continue**  **predict**  few  pattern  pair, **rule**  **> greater than**  **< less than**  next  between  halfway between  above, below  guess, estimate  enough, not enough | **Number**  number  numeral  zero  one, two, three…twenty  teens numbers, eleven, twelve … twenty  twenty-one, twenty-two… one hundred, two hundred …one thousand  none  How many…?  count, count (up) to, count on (from, to), count back (from, to)  forwards, backwards  count in ones, twos, fives, tens, threes, fours, **eights, fifties** and so on to **hundreds**  equal to  equivalent to  is the same as  more, less  most, least  tally  many  odd, even  multiple of, **factor of**  sequence  continue  predict  few  pattern  pair, rule  **relationship**  > greater than  < less than  **Roman numerals** | **Number**  number  numeral  zero  one, two, three…twenty  teens numbers, eleven, twelve…twenty  twenty-one, twenty-two…one hundred, two hundred …one thousand…**ten thousand, hundred thousand, million**  none  How many…?  count, count (up) to, count on (from, to), count back (from, to) forwards  backwards  count in ones, twos, fives, tens, threes, fours, eights, fifties, **sixes, sevens, nines,**  **twenty-fives** and so on to hundreds  thousands  equal to  equivalent to  is the same as  more, less  most, least  tally  many  odd, even  multiple of, factor of  sequence  continue  predict  few  pattern  pair, rule  relationship  **next, consecutive**  > greater than  < less than  Roman numerals  **integer, positive, negative**  **above/ below zero, minus**  **negative numbers** | **Number**  number  numeral  zero  one, two, three…twenty  teens numbers, eleven, twelve …twenty  twenty-one, twenty-two … one hundred, two hundred … one thousand … ten thousand, hundred thousand, million  none  How many…?  count, count (up) to, count on (from, to), count back (from, to)  forwards, backwards  count in ones, twos, fives, tens, threes, fours, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, thousands  equal to  equivalent to  is the same as  more, less  most, least  tally  many  odd, even  multiple of, factor of  **factor pair**  sequence  continue  predict  few  pattern  pair, rule  relationship  next, consecutive  > greater than  < less than  **≥ greater than or equal to**  **≤ less than or equal to**  Roman numerals  integer, positive, negative  above/below zero, minus  negative numbers  **formula**  **divisibility**  **square number**  **prime number**  **ascending/ descending order** | **Number**  number  numeral  zero  one, two, three…twenty  teens numbers, eleven, twelve… twenty  twenty-one, twenty-two…one hundred, two hundred…one thousand…ten thousand, hundred thousand, million  none  How many…?  count, count (up) to, count on (from, to), count back (from, to)  forwards, backwards  count in ones, twos, fives, tens, threes, fours, eights, fifties, sixes, sevens, nines, twenty-fives and so on to hundreds, thousands  equal to  equivalent to  is the same as  more, less  most, least  tally  many  odd, even  multiple of, factor of  factor pair  sequence  continue  predict  few  pattern  pair, rule  relationship  next, consecutive  > greater than  < less than  ≥ greater than or equal to  ≤ less than or equal to  Roman numerals  integer, positive, negative  above/ below zero, minus  negative numbers  formula  divisibility  square number  prime number  **factorise**  **prime factor**  ascending/ descending order  **digit total** |
| **Place Value**  ones  tens  digit  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more  one less, ten less  compare  order  size  first, second, third… twentieth  last, last but one  before, after  next  between | **Place Value**  ones  tens  digit  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more  one less, ten less  **equal to**  one more, ten more  one less, ten less  compare  order  size  first, second, third… twentieth  last, last but one  before, after  next  between  **half-way between**  **above, below** | **Place Value**  ones  tens, **hundreds**  digit  **one-, two- or three-digit number**  **place, place value**  **stands for, represents**  **exchange**  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more  one less, ten less  equal to  compare  order  size  first, second, third … twentieth  **twenty-first, twenty-second…**  last, last but one  before, after  next  between  halfway between  above, below | **Place Value**  ones  tens, hundreds  digit  one-, two- or three-digit number  place, place value  stands for, represents  exchange  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more, **one hundred more**  one less, ten less, **one hundred less**  equal to  compare  order  size  first, second, third … twentieth  twenty-first, twenty-second…  last, last but one  before, after  next  between  halfway between  above, below | **Place Value**  ones  tens, hundreds  digit  one-, two- or three-digit number  place, place value  stands for, represents  exchange  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more, one hundred more, **one thousand more**  one less, ten less, one hundred less, **one thousand less**  equal to  compare  order  size  first, second, third… twentieth  twenty-first, twenty-second…  last, last but on  before, after  next  between  halfway between  above, below | **Place Value**  ones  tens, hundreds  digit  one-, two- or three-digit number  place, place value  stands for, represents  exchange  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more, one hundred more, one thousand more  one less, ten less, one hundred less, one thousand less  equal to  compare  order  size  first, second, third…twentieth  twenty-first, twenty-second…  last, last but one  before, after  next  between  halfway between  above, below | **Place Value**  ones  tens, hundreds  digit  one-, two- or three-digit number  place, place value  stands for, represents  exchange  the same number as, as many as  more, larger, bigger, greater  fewer, smaller, less  fewest, smallest, least  most, biggest, largest, greatest  one more, ten more, one hundred more, one thousand more  one less, ten less, one hundred less, one thousand less  equal to  compare  order  size  first, second, third…twentieth  twenty-first, twenty-second…  last, last but one  before, after  next  between  halfway between  above, below |
| **Estimating**  guess  How many…?  estimate  nearly  close to  about the same as  just over, just under  too many, too few  enough, not enough | **Estimating**  guess  How many…?  estimate  nearly  **roughly**  close to  about the same as  just over, just under  too many, too few  enough, not enough | **Estimating**  guess  How many…?  estimate  nearly  roughly  close to  about the same as  just over, just under  **exact, exactly**  too many, too few  enough, not enough | **Estimating**  guess  How many…?  estimate  nearly  roughly  close to  **approximate, approximately**  about the same as  just over, just under  exact, exactly  too many, too few  enough, not enough  **round, nearest, round to the nearest ten,**  **hundred**  **round up, round down** | **Estimating**  guess  How many…?  estimate  nearly  roughly  close to  approximate, approximately  about the same as  just over, just under  exact, exactly  too many, too few  enough, not enough  round, nearest, round to the nearest ten, hundred, **thousand**  round up, round down | **Estimating**  guess  How many…?  estimate  nearly  roughly  close to  approximate, approximately  about the same as  just over, just under  exact, exactly  too many, too few  enough, not enough  round, nearest, round to the nearest ten, hundred, thousand, **ten thousand**  round up, round down | **Estimating**  guess  How many…?  estimate  nearly  roughly  close to  approximate, approximately  about the same as  just over, just under  exact, exactly  too many, too few  enough, not enough  round, nearest, round to the nearest ten, hundred, thousand, ten thousand  round up, round down |
| **Addition and subtraction** | add, more, and  make, sum, total  altogether  double  one more, two more…ten more  How many more to make…?  How many more is… than…?  How much more is…?  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…  How many fewer is…than…?  How much less is…?  difference between | **addition**  add, more, and  make, sum, total  altogether  double  **near double**  **half, halve**  one more, two more…ten more  How many more to make…?  How many more is…than…?  How much more is…?  **subtract**  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…  How many fewer is…than…?  How much less is…?  difference between  **equals**  **is the same as**  **number bonds/ pairs**  **missing number** | addition  add, more, and  make, sum, total  altogether  double  near double  half, halve  one more, two more…ten more…**one hundred more**  How many more to make…?  How many more is…than…?  How much more is…?  subtract  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…**one hundred less**  How many fewer is…than…?  How much less is…?  difference between  equals  is the same as  number bonds/ pairs/ **facts**  **tens boundary** | addition  add, more, and  make, sum, total  altogether  double  near double  half, halve  one more, two more…ten more…one hundred more  How many more to make…?  How many more is…than…?  How much more is…?  subtract  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…one hundred less  How many fewer is…than…?  How much less is…?  difference between  equals  is the same as  number bonds/ pairs/ facts  missing number  tens boundary, **hundreds boundary** | addition  add, more, and  make, sum, total  altogether  double  near double  half, halve  one more, two more…ten more…one hundred more  How many more to make…?  How many more is…than…?  How much more is…?  subtract  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…one hundred less  How many fewer is…than…?  How much less is…?  difference between  equals  is the same as  number bonds/ pairs/ facts  missing number  tens boundary, hundreds boundary  **inverse** | addition  add, more, and  make, sum, total  altogether  double  near double  half, halve  one more, two more…ten more…one hundred more  How many more to make…?  How many more is…than…?  How much more is…?  subtract  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…one hundred less  How many fewer is…than…?  How much less is…?  difference between  equals  is the same as  number bonds/ pairs/ facts  missing number  tens boundary, hundreds boundary, **ones boundary, tenths boundary**  inverse | addition  add, more, and  make, sum, total  altogether  double  near double  half, halve  one more, two more…ten more…one hundred more  How many more to make…?  How many more is…than…?  How much more is…?  subtract  take away  How many are left/ left over?  How many have gone?  one less, two less, ten less…one hundred less  How many fewer is…than…?  How much less is…?  difference between  equals  is the same as  number bonds/ pairs/ facts  missing number  tens boundary, hundreds boundary, ones boundary, tenths boundary  inverse |
| **Multiplication and division** | sharing  doubling  halving  number patterns | **multiplication**  **multiply**  **multiplied by**  **multiple**  **division**  **dividing**  **grouping**  sharing  doubling  halving  **array**  number patterns | multiplication  multiply  multiplied by  multiple  **groups of**  **times**  **once, twice, three times…ten times**  **repeated addition**  division  dividing, **divide, divided by, divided into**  grouping  sharing, **share, share equally**  **left, left over**  **one each, two each, three each … ten each**  **group in pairs, threes…tens**  **equal groups of**  doubling  halving  array  **row, column**  number patterns  **multiplication table**  **multiplication fact, division fact** | multiplication  multiply  multiplied by  multiple, **factor**  groups of  times  **product**  once, twice, three times…ten times  repeated addition  division  dividing, divide, divided by, divided into  left, left over, **remainder**  grouping  sharing, share, share equally  one each, two each, three each…ten each  group in pairs, threes…tens  equal groups of  doubling  halving  array  row, column  number patterns  multiplication table  multiplication fact, division fact | multiplication  multiply  multiplied by  multiple, factor  groups of  times  product  once, twice, three times…ten times  repeated addition  division  dividing, divide, divided by, divided into  left, left over, remainder  grouping  sharing, share, share equally  one each, two each, three each…ten each  group in pairs, threes…tens  equal groups of  doubling  halving  array  row, column  number patterns  multiplication table  multiplication fact, division fact  **inverse**  **square, squared**  **cube, cubed** | multiplication  multiply  multiplied by  multiple, factor  groups of  times  product  once, twice, three times…ten times  repeated addition  division  dividing, divide, divided by, divided into  left, left over, remainder  grouping  sharing, share, share equally  one each, two each, three each…ten each  group in pairs, threes…tens  equal groups of  doubling  halving  array  row, column  number patterns  multiplication table  multiplication fact, division fact  inverse  square, squared  cube, cubed | multiplication  multiply  multiplied by  multiple, factor  groups of  times  product  once, twice, three times…ten times  repeated addition  division  dividing, divide, divided by, divided into  left, left over, remainder  grouping  sharing, share, share equally  one each, two each, three each…ten each  group in pairs, threes…tens  equal groups of  doubling  halving  array  row, column  number patterns  multiplication table  multiplication fact, division fact  inverse  square, squared  cube, cubed |
| **Fractions (including decimals and percentages)** | parts of a whole  half  quarter | **fraction**  **equal part**  **equal grouping**  **equal sharing**  parts of a whole  half  **one of two equal parts**  quarter  **one of four equal parts** | fraction  **equivalent fraction**  **mixed number**  **numerator, denominator**  equal part  equal grouping  equal sharing  parts of a whole  half, **two halves**  one of two equal parts  quarter, **two quarters, three quarters**  one of four equal parts  **one third, two thirds**  **one of three equal parts** | fraction  equivalent fraction  mixed number  numerator, denominator  equal part  equal grouping  equal sharing  parts of a whole  half, two halves  one of two equal parts  quarter, two quarters, three quarters  one of four equal parts  one third, two thirds  one of three equal parts  **sixths, sevenths, eighths, tenths…** | fraction  equivalent fraction  mixed number  numerator, denominator  equal part  equal grouping  equal sharing  parts of a whole  half, two halves  one of two equal parts  quarter, two quarters, three quarters  one of four equal parts  one third, two thirds  one of three equal parts  sixths, sevenths, eighths, tenths…**hundredths**  **decimal, decimal fraction, decimal point, decimal place, decimal equivalent**  **proportion** | fraction, **proper/ improper fraction**  equivalent fraction  mixed number  numerator, denominator  **equivalent, reduced to, cancel**  equal part  equal grouping  equal sharing  parts of a whole  half, two halves  one of two equal parts  quarter, two quarters, three quarters  one of four equal parts  one third, two thirds  one of three equal parts  sixths, sevenths, eighths, tenths…  hundredths, **thousandths**  decimal, decimal fraction, decimal point, decimal place, decimal equivalent  proportion, **in every, for every percentage, per cent, %** | fraction, proper/ improper fraction  equivalent fraction  mixed number  numerator, denominator  equivalent, reduced to, cancel  equal part  equal grouping  equal sharing  parts of a whole  half, two halves  one of two equal parts  quarter, two quarters, three quarters  one of four equal parts  one third, two thirds  one of three equal parts  sixths, sevenths, eighths, tenths…  hundredths, thousandths  decimal, decimal fraction, decimal point, decimal place, decimal equivalent  proportion, in every, for every  **ratio**  percentage, per cent, %  **Algebra**  formula, **formulae**  **equation**  **unknown**  **variable** |
| **Measurement** | measure  size  compare  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as  just over, just under | measure  **measurement**  size  compare  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as  **roughly**  just over, just under | measure  measurement  size  compare  **measuring scale**  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as  roughly  just over, just under | measure  measurement  size  compare  measuring scale, **division**  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as, **approximately**  roughly  just over, just under | measure  measurement  size  compare  **unit, standard unit**  **metric unit**  measuring scale, division  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as, approximately  roughly  just over, just under | measure  measurement  size  compare  unit, standard unit  metric unit, **imperial unit**  measuring scale, division  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as, approximately  roughly  just over, just under | measure  measurement  size  compare  unit, standard unit  metric unit, imperial unit  measuring scale, division  guess, estimate  enough, not enough  too much, too little  too many, too few  nearly, close to, about the same as, approximately  roughly  just over, just under |
| **Length**  metre  length, height, width, depth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, near, close | **Length**  **centimetre**, metre  length, height, width, depth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, near, close  **ruler**  **metre stick** | **Length**  centimetre, metre  length, height, width, depth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, **further, furthest**, near, close  ruler  metre stick, **tape measure** | **Length**  **millimetre**, centimetre, metre, **kilometre, mile**  length, height, width, depth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, further, furthest, near, close  **distance apart…between …to…from perimeter**  ruler  metre stick, tape measure | **Length**  millimetre, centimetre, metre, kilometre, mile  length, height, width, depth, **breadth**  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, further, furthest, near, close  distance apart…between…to…  from  **edge**, perimeter  **area, covers**  **square centimetre (cm2)**  ruler  metre stick, tape measure | **Length**  millimetre, centimetre, metre, kilometre, mile  length, height, width, depth, breadth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, further, furthest, near, close  distance apart…between…to…  from  edge, perimeter  area, covers  square centimetre (cm2), **square metre (m2), square millimetre (mm2)**  ruler  metre stick, tape measure | **Length**  centimetre, metre, millimetre, kilometre, mile, **yard, foot, feet, inch, inches**  length, height, width, depth, breadth  long, short, tall  high, low  wide, narrow  thick, thin  longer, shorter, taller, higher…and so on  longest, shortest, tallest, highest…and so on  far, further, furthest, near, close  distance apart…between…to… from  edge, perimeter, **circumference**  area, covers  square centimetre (cm2), square metre (m2), square millimetre (mm2)  ruler  metre stick, tape measure |
| **Weight**  Weight  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  **kilogram, half kilogram**  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  kilogram, half kilogram, **gram**  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  kilogram, half kilogram, gram  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  **mass: big, bigger, small, smaller**  **weight: heavy/ light, heavier/ lighter, heaviest/ lightest**  kilogram, half kilogram, gram  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  mass: big, bigger, small, smaller  weight: heavy/ light, heavier/ lighter, heaviest/ lightest  kilogram, half kilogram, gram  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales | **Weight**  mass: big, bigger, small, smaller  weight: heavy/ light, heavier/ lighter, heaviest/ lightest  **tonne**, kilogram, half kilogram, gram, **pound, ounce**  weigh, weighs, balances  heavy, light  heavier than, lighter than  heaviest, lightest  scales |
| **Capacity and volume**  full  empty  half full  holds  container | **Capacity and volume**  **litre, half litre**  **capacity**  **volume**  full  empty  **more than**  **less than**  half full  **quarter full**  holds  container | **Capacity and volume**  litre, half litre, **millilitre**  capacity  volume  full  empty  more than  less than  half full  quarter full  holds, **contains**  container | **Capacity and volume**  litre, half litre, millilitre  capacity  volume  full  empty  more than  less than  half full  quarter full  holds, contains  container | **Capacity and volume**  litre, half litre, millilitre  capacity  volume  full  empty  more than  less than  half full  quarter full  holds, contains  container, **measuring cylinder** | **Capacity and volume**  litre, half litre, millilitre  capacity  volume  full  empty  more than  less than  half full  quarter full  holds, contains  container, measuring cylinder  **pint, gallon** | **Capacity and volume**  litre, half litre, millilitre, **centilitre**  **cubic centimetres (cm3), cubic metres (m3), cubic millimetres (mm3), cubic kilometres (km3)**  capacity  volume  full  empty  more than  less than  half full  quarter full  holds, contains  container, measuring cylinder  pint, gallon |
| **Temperature** | **Temperature** | **Temperature**  **temperature**  **degree** | **Temperature**  temperature  degree  **centigrade** | **Temperature**  temperature  degree  centigrade | **Temperature**  temperature  degree  centigrade | **Temperature**  temperature  degree  centigrade |
| **Time**  time  days of the week, Monday, Tuesday…  day, week  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  next, last  now, soon, early, late  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  hour, o’clock  clock, watch, hands | **Time**  time  days of the week, Monday, Tuesday…  **months of the year (January, February...)**  **seasons: spring, summer, autumn, winter**  day, week, **weekend, month, year**  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  **earlier, later**  next, **first**, last  **midnight**  **date**  now, soon, early, late  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  **How long ago?**  **How long will it be to…?**  **How long will it take to…?**  **How often?**  **always, never, often, sometimes**  **usually**  **once, twice**  hour, o’clock, **half past, quarter past, quarter to**  clock, **clock face**, watch, hands  **hour hand, minute hand**  **hours, minutes** | **Time**  time  days of the week, Monday, Tuesday…  months of the year (January, February...)  seasons: spring, summer, autumn, winter  day, week, weekend, **fortnight**, month, year  birthday, holiday  morning, afternoon, evening, night  bedtime, dinnertime, playtime  today, yesterday, tomorrow  before, after  earlier, later  next, first, last  midnight  date  now, soon, early, late  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  How long ago?  How long will it be to…?  How long will it take to…?  How often?  always, never, often, sometimes  usually  once, twice  hour, o’clock, half past, quarter past, quarter to  **5, 10, 15…minutes past**  clock, clock face, watch, hands  **digital/ analogue clock/ watch, timer**  hour hand, minute hand  hours, minutes, **seconds** | **Time**  time  days of the week, Monday, Tuesday…  months of the year (January, February...)  seasons: spring, summer, autumn, winter  day, week, weekend, fortnight, month, year, **century**  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  earlier, later  next, first, last  midnight  **calendar**, date  now, soon, early, late, **earliest, latest**  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  How long ago?  How long will it be to…?  How long will it take to…?  How often?  always, never, often, sometimes  usually  once, twice  hour, o’clock, half past, quarter past, quarter to  5, 10, 15…minutes past  **a.m., p.m.**  clock, clock face, watch, hands  digital/ analogue clock/ watch, timer  hour hand, minute hand  hours, minutes, seconds  **Roman numerals**  **12-hour clock time, 24-hour clock time** | **Time**  time  days of the week, Monday, Tuesday…  months of the year (January, February...)  seasons: spring, summer, autumn, winter  day, week, weekend, fortnight, month, year, **leap year**, century, **millennium**  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  earlier, later  next, first, last  **noon**, midnight  calendar, date, **date of birth**  now, soon, early, late, earliest, latest  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  How long ago?  How long will it be to…?  How long will it take to…?  How often?  always, never, often, sometimes  usually  once, twice  hour, o’clock, half past, quarter past, quarter to  5, 10, 15…minutes past  a.m., p.m.  clock, clock face, watch, hands  digital/ analogue clock/ watch, timer  hour hand, minute hand  hours, minutes, seconds  **timetable, arrive, depart**  Roman numerals  12-hour clock time, 24-hour clock time | **Time**  time  days of the week, Monday, Tuesday…  months of the year (January, February...)  seasons: spring, summer, autumn, winter  day, week, weekend, fortnight, month, year, leap year, century, millennium  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  earlier, later  next, first, last  noon, midnight  calendar, date, date of birth  now, soon, early, late, earliest, latest  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  How long ago?  How long will it be to…?  How long will it take to…?  How often?  always, never, often, sometimes  usually  once, twice  hour, o’clock, half past, quarter past, quarter to  5, 10, 15…minutes past  a.m., p.m.  clock, clock face, watch, hands  digital/ analogue clock/ watch, timer  hour hand, minute hand  hours, minutes, seconds  timetable, arrive, depart  Roman numerals  12-hour clock time, 24-hour clock time | **Time**  time  days of the week, Monday, Tuesday…  months of the year (January, February...)  seasons: spring, summer, autumn, winter  day, week, weekend, fortnight, month, year, leap year, century, millennium  birthday, holiday  morning, afternoon, evening, night  bedtime, dinner time, playtime  today, yesterday, tomorrow  before, after  earlier, later  next, first, last  noon, midnight  calendar, date, date of birth  now, soon, early, late, earliest, latest  quick, quicker, quickest, quickly  slow, slower, slowest, slowly  old, older, oldest  new, newer, newest  takes longer, takes less time  How long ago?  How long will it be to…?  How long will it take to…?  How often?  always, never, often, sometimes  usually  once, twice  hour, o’clock, half past, quarter past, quarter to  5, 10, 15…minutes past  a.m., p.m.  clock, clock face, watch, hands  digital/ analogue clock/ watch, timer  hour hand, minute hand  hours, minutes, seconds  timetable, arrive, depart  Roman numerals  12-hour clock time, 24-hour clock time  **Greenwich Mean Time, British Summer Time, International Date Line** |
| **Money**  money  coin  penny, pence, pound  price, cost  buy, sell  spend, spent  pay | **Money**  money  coin  penny, pence, pound  price, cost  buy, sell  spend, spent  pay  **change**  **dear, costs more**  **cheap, costs less, cheaper**  **costs the same as**  **How much…?**  **How many…?**  **total** | **Money**  money  coin  penny, pence, pound  price, cost  buy, **bought**, sell, **sold**  spend, spent  pay  change  dear, costs more  cheap, costs less, cheaper  costs the same as  How much…?  How many…?  total | **Money**  money  coin  penny, pence, pound  price, cost  buy, bought, sell, sold  spend, spent  pay  change  dear, costs more  cheap, costs less, cheaper  costs the same as  How much…?  How many…?  total | **Money**  money  coin  penny, pence, pound  price, cost  buy, bought, sell, sold  spend, spent  pay  change  dear, costs more  cheap, costs less, cheaper  costs the same as  How much…?  How many…?  total | **Money**  money  coin  penny, pence, pound  price, cost  buy, bought, sell, sold  spend, spent  pay  change  dear, costs more  cheap, costs less, cheaper  costs the same as  How much…?  How many…?  total  **discount**  **currency** | **Money**  money  coin  penny, pence, pound  price, cost  buy, bought, sell, sold  spend, spent  pay  change  dear, costs more  cheap, costs less, cheaper  costs the same as  How much…?  How many…?  total  discount  currency  **profit, loss** |
| **Geometry - properties of shape** | shape, pattern  flat  curved, straight  round  hollow, solid  sort  make, build, draw  size bigger, larger, smaller  symmetrical  pattern, repeating pattern  match | shape, pattern  flat  curved, straight  round  hollow, solid  sort  make, build, draw  size  bigger, larger, smaller  **symmetry**, symmetrical, **symmetrical pattern**  pattern, repeating pattern  match | shape, pattern  flat  curved, straight  round  hollow, solid  sort  make, build, draw  **surface**  size  bigger, larger, smaller  symmetry, symmetrical, symmetrical pattern  **line symmetry**  pattern, repeating pattern  match | shape, pattern  flat  curved, straight  round  hollow, solid  sort  make, build, draw  **perimeter**  surface  size  bigger, larger, smaller  symmetry, symmetrical, symmetrical pattern  line symmetry  pattern, repeating pattern  match | shape, pattern  flat, **line**  curved, straight  round  hollow, solid  sort  make, build, **construct**, draw, **sketch**  perimeter  **centre**  surface  **angle, right-angled**  **base, square-based**  size  bigger, larger, smaller  symmetry, symmetrical, symmetrical pattern  line symmetry  **reflect, reflection**  pattern, repeating pattern  match  **regular, irregular** | shape, pattern  flat, line  curved, straight  round  hollow, solid  sort  make, build, construct, draw, sketch  perimeter  centre, **radius, diameter**  surface  angle, right-angled  **congruent**  base, square-based  size  bigger, larger, smaller  symmetry, symmetrical, symmetrical pattern  line symmetry  reflect, reflection  **axis of symmetry, reflective symmetry**  pattern, repeating pattern  match  regular, irregular | shape, pattern  flat, line curved, straight  round  hollow, solid  sort  make, build, construct, draw, sketch  perimeter  centre, radius, diameter  **circumference, concentric, arc**  **net, open, closed**  surface  angle, right-angled  congruent  **intersecting, intersection**  **plane**  base, square-based  size  bigger, larger, smaller  symmetry, symmetrical, symmetrical pattern  line symmetry  reflect, reflection  axis of symmetry, reflective symmetry  pattern, repeating pattern  match  regular, irregular |
| **2-D Shape**  corner, side  rectangle (including square)  circle  triangle | **2-D Shape**  corner, side  **point, pointed**  rectangle (including square)  circle  triangle | **2-D Shape**  corner, side  point, pointed  rectangle (including square), **rectangular**  circle, **circular**  triangle, **triangular**  **pentagon**  **hexagon**  **octagon** | **2-D Shape**  corner, side  point, pointed  rectangle (including square), rectangular  circle, circular  triangle, triangular  pentagon, **pentagonal**  hexagon, **hexagonal**  octagon, **octagonal**  **quadrilateral**  **right-angled**  **parallel, perpendicular** | **2-D Shape**  **2-D, two-dimensional**  corner, side  point, pointed  rectangle (including square), rectangular,  **oblong**  **rectilinear**  circle, circular  triangle, triangular  **equilateral triangle, isosceles triangle, scalene triangle**  pentagon, pentagonal  hexagon, hexagonal  **heptagon**  octagon, octagonal  quadrilateral  **parallelogram, rhombus, trapezium**  **polygon**  right-angled  parallel, perpendicular | **2-D Shape**  2-D, two-dimensional  corner, side  point, pointed  rectangle (including square), rectangular, oblong  rectilinear  circle, circular  triangle, triangular  equilateral triangle, isosceles triangle, scalene triangle  pentagon, pentagonal  hexagon, hexagonal  heptagon  octagon, octagonal  quadrilateral  parallelogram, rhombus, trapezium  polygon  right -angled  parallel, perpendicular  **x-axis, y-axis, quadrant** | **2-D Shape**  2-D, two-dimensional  corner, side  point, pointed  rectangle (including square), rectangular, oblong  rectilinear  circle, circular  triangle, triangular  equilateral triangle, isosceles triangle, scalene triangle  pentagon, pentagonal  hexagon, hexagonal  heptagon  octagon, octagonal  quadrilateral parallelogram, rhombus, trapezium, **kite**  polygon  right-angled  parallel, perpendicular  x-axis, y-axis, quadrant |
| **3-D Shape**  face, edge, vertex, vertices  cube  pyramid  sphere  cone | **3-D Shape**  face, edge, vertex, vertices  cube, **cuboid**  pyramid  sphere  cone  **cylinder** | **3-D Shape**  face, edge, vertex, vertices  cube, cuboid  pyramid  sphere  cone  cylinder | **3-D Shape**  face, edge, vertex, vertices  cube, cuboid  pyramid  sphere, **hemisphere**  cone  cylinder  **prism, triangular prism** | **3-D Shape**  **3-D, three-dimensional**  face, edge, vertex, vertices  cube, cuboid  pyramid  sphere, hemisphere, **spherical**  cone  cylinder, **cylindrical**  prism, triangular prism  **tetrahedron, polyhedron** | **3-D Shape**  3-D, three-dimensional  face, edge, vertex, vertices  cube, cuboid  pyramid  sphere, hemisphere, spherical  cone  cylinder, cylindrical  prism, triangular prism  tetrahedron, polyhedron  **octahedron** | **3-D Shape**  3-D, three-dimensional  face, edge, vertex, vertices  cube, cuboid  pyramid  sphere, hemisphere, spherical  cone  cylinder, cylindrical  prism, triangular prism  tetrahedron, polyhedron  octahedron  **dodecahedron**  **net, open, closed** |
| **Geometry –position and direction** | position  over, under  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  corner  direction  left, right  up, down  forwards, backwards, sideways across  next to, close, near, far  along  through  to, from, towards, away from  movement  slide  roll  turn  stretch, bend  whole turn, half turn | position  over, under, **underneath**  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  **centre**  corner  direction  **journey**  left, right  up, down  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  movement  slide  roll  turn  stretch, bend  whole turn, half turn, **quarter turn, three-quarter turn** | position  over, under, underneath  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  centre  corner  direction  journey, **route**  left, right  up, down  **higher, lower**  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  **clockwise, anticlockwise**  movement  slide  roll  turn  stretch, bend  whole turn, half turn, quarter turn, three-quarter turn  **right angle**  **straight line** | position  over, under, underneath  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  centre  corner  direction  journey, route  left, right  up, down  higher, lower  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  clockwise, anticlockwise  **compass point**  **north, south, east, west, N, S, E, W**  **horizontal, vertical, diagonal**  movement  slide  roll  turn  stretch, bend  whole turn, half turn, quarter turn,  three-quarter turn  **angle…is a greater/ smaller angle than**  right angle  **acute angle**  **obtuse angle**  straight line | position  over, under, underneath  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  centre  corner  direction  journey, route  left, right  up, down  higher, lower  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  clockwise, anticlockwise  compass point  north, south, east, west, N, S, E, W  **north-east, north-west, south-east, south-west, NE, NW, SE, SW**  horizontal, vertical, diagonal  **translate, translation**  movement  slide  roll  turn  stretch, bend  whole turn, half turn, quarter turn, three-quarter turn  **rotate, rotation**  angle, is a greater/ smaller angle than  **degree**  right angle  acute angle  obtuse angle  **reflection**  straight line  **ruler, set square**  **angle measurer, compass** | position  over, under, underneath  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  centre  corner  direction  journey, route  left, right  up, down  higher, lower  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  clockwise, anticlockwise  compass point  north, south, east, west, N, S, E, W  north-east, north-west, south-east, south-west, NE, NW, SE, SW  horizontal, vertical, diagonal  translate, translation  **coordinate**  movement  slide  roll  turn  stretch, bend  whole turn, half turn, quarter turn, three-quarter turn  rotate, rotation  angle, is a greater/ smaller angle than  degree  right angle  acute angle  obtuse angle  reflection  straight line  ruler, set square  angle measurer, compass, **protractor** | position  over, under, underneath  above, below  top, bottom, side  on, in  outside, inside  around  in front, behind  front, back  beside, next to  opposite  apart  between  middle, edge  centre  corner  direction  journey, route  left, right  up, down higher, lower  forwards, backwards, sideways  across  next to, close, near, far  along  through  to, from, towards, away from  clockwise, anticlockwise  compass point  north, south, east, west, N, S, E, W  north-east, north-west, south-east, south-west, NE, NW, SE, SW  horizontal, vertical, diagonal  translate, translation  coordinate  movement  slide  roll  turn  stretch, bend  whole turn, half turn, quarter turn, three-quarter turn  rotate, rotation  angle, is a greater/ smaller angle than  degree  right angle  acute angle  obtuse angle  **reflex angle**  reflection  straight line  ruler, set square  angle measurer, compass, protractor |
| **Statistics** | count, sort  group, set  list | count, sort, **vote**  group, set  list, **table** | count, **tally**, sort, vote  **graph, block graph, pictogram**  **represent**  group, set  list, table  **label, title**  **most popular, most common**  **least popular, least common** | count, tally, sort, vote  graph, block graph, pictogram  represent  group, set  list, table, **chart, bar chart, frequency table**  **Carroll diagram, Venn diagram**  label, title, **axis, axes**  **diagram**  most popular, most common  least popular, least common | count, tally, sort, vote  **survey, questionnaire, data**  graph, block graph, pictogram  represent  group, set  list, table, chart, bar chart, frequency table  Carroll diagram, Venn diagram  label, title, axis, axes  diagram  most popular, most common  least popular, least common | count, tally, sort, vote  survey, questionnaire, data, **database**  graph, block graph, pictogram  represent  group, set  list, table, chart, bar chart, frequency table, **bar line chart**  Carroll diagram, Venn diagram  **line graph**  label, title, axis, axes  diagram  most popular, most common  least popular, least common  **maximum/ minimum value**  **outcome** | count, tally, sort, vote  survey, questionnaire, data, database  graph, block graph, pictogram  represent  group, set  list, table, chart, bar chart, frequency table, bar line chart  Carroll diagram, Venn diagram  line graph  pie chart  label, title, axis, axes  diagram  most popular, most common  least popular, least common  maximum/ minimum value  outcome  **mean (mode, median, range as estimates for this)**  **statistics, distribution** |

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| --- | --- |
| **How parents can help:** | We all want children to feel confident with numbers, even if we struggle with maths ourselves. Everyone can help children with maths – you don't need to be an expert! Developing number confidence and a positive attitude to maths has a crucial impact on a child's schooling, and their ability to use numbers in everyday life as they grow. **Be positive about maths.**Try not to say things like "I can't do maths" or "I hated maths at school". **Point out the maths in everyday life.**Include your child in activities involving numbers and measuring, such as shopping, cooking and travelling.  **Top tips for parents**   1. Talk about math in a positive way. A positive attitude about math is infectious. 2. Encourage persistence. Some problems take time to solve. 3. Encourage your child to experiment with different approaches to mathematics. There is often more than one way to solve a math problem. 4. Encourage your child to talk about and show a math problem in a way that makes sense (i.e., draw a picture or use material like macaroni). 5. When your child is solving math problems ask questions such as: Why did you...?  What can you do next? Do you see any patterns?  Does the answer make sense? How do you know? This helps to encourage thinking about mathematics. 6. Connect math to everyday life and help your child understand how math influences them (i.e. shapes of traffic signs, walking distance to school, telling time). 7. Play family math games together that add excitement such as checkers, junior monopoly, math bingo and Uno. 8. Computers + math = fun! There are great computer math games available on the internet that you can discover with your child. 9. Talk with your child’s teacher about difficulties he/she may be experiencing. When teachers and parents work together, children benefit.   **Everyday learning experiences**  Asking children simple questions about the world around them can reinforce math skills and help them apply their math knowledge in new ways. Young children who have lots of opportunities to develop and apply their mathematical knowledge are more likely to achieve in school and in life. Parents and carers do not need extensive mathematical knowledge to support their children’s learning. Discussion of interesting questions, and talk about ways that mathematics can help us with everyday activity, can be more useful than knowing a correct procedure or answer.  **Activities to consider**   1. **Baking** a cake involves measuring and shape. 2. **Measuring** children’s height as they grow is also fun. 3. **Singing** ‘Ten green bottles’ is maths – there are lots of songs and videos online. 4. There is counting and pattern-forming in **knitting**. 5. The ancient Japanese art of **origami** is mathematical.   The link below takes you to some examples of games that can be played at home.  <https://thirdspacelearning.com/blog/fun-maths-games-activities-for-kids/> |