Maths – Progression Map

Number and Place Value

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| number  one - five  count  none  more  less | numbers one to ten (verbally, reading and writing)  numbers 11-20 (verbally)  digit  one more, one less  how many more, how many less  higher  lower  next number, more, bigger, smaller, less, smallest, most, biggest, | Number bond to 10, 20,  Tens, ones, teens,  Ten more  Ten less  Count on from  Count back from  greater , fewer, fewest, least  lower than greater than | Number bond to 100  Count on from— (any number)  Count back from – (any number) |
| Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.  Count in everyday contexts, sometimes skipping numbers - ‘1-2-3-5’.  Recite numbers past 5.  Say one number for each item in order: 1,2,3,4,5. | Count objects, actions and sounds.  Count beyond ten.  Have a deep understanding of number to 10, including the composition of each number.  Verbally count beyond 20, recognising the pattern of the counting system. | Count from 0 -50  Count from 0-100 forwards and backwards.  Count on from any given number.  Use subitising to count on | count backwards from any given number |
| React to changes of amount in a group of up to three items. | Record using marks they can interpret  be able to write numbers 0 -10.  read numbers to 10 | count, read and write numbers to 50.  count, read and write numbers to 100.  begin to count on in 2, 5 10 from 0 | count on and back in 2, 5 and 10  Begin to count on in steps of 2, 5. 10 from any given number. |
|  | Understand the ‘one more than/one less than’ relationship between consecutive numbers.  Identify 1 more and 1 less than numbers 0-10 | Identify 1 more and 1 less than any 2-digit number | identify 10 more an 10 less |

Comparing numbers

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
| First, lots, more, same, altogether | order size first, second, third… tenth, last, last but one before, after next between | Compare, higher value, lower value, more than less than, equal to,  first-- - twentieth. | symbol  balance |
| Compare amounts, saying ‘lots’, ‘more’ or ‘same’.  Know that the last number reached when counting a small set of objects tells you how many there are in total (‘cardinal principle’).  Compare quantities using language: ‘more than’, ‘fewer than’. | Compare 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 language of equal to , more than , less than  begin to use the < > = sign | using the < > and = in any orientation in a number sentence |

Identifying and representing numbers

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
| How many, ones | Represent, match, part, whole, odd, even, Numicon number line to 20  Tens ones | Identify, symbol, part whole, tens frame, Numicon, Rekenrek number line to 50, tens ones | Bar model, dienes, Rekenrek, represent, estimate, number line to 100, part whole model, tens frame, tens, ones |
| Take part in finger rhymes with numbers.  Fast recognition of up to 3 objects, without having to count them individually (‘subitising’).  Show ‘finger numbers’ up to 5.  Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. | Subitise.  Link the number symbol (numeral) with its number value.  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.  Introduce number line, tens frame and part whole model as a model | identify and represent numbers using objects and pictures including number line an part whole model | identify, represent and estimate numbers using objects and pictures. |

Reading and writing numbers

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
|  | Number names one to ten | Number names one to 50  Teens numbers  Multiple, pair, | Number names one to 100  Two digit number |
| Experiment with their own symbols and marks as well as numerals. | Recognising numbers to 10  write numbers to 10 with the correct formation and orientation. | Read and write numbers from 10-to 50  Say the teens numbers correctly when reading them.  Distinguish between the teens and multiples of ten saying …’ty’ clearly for multiples of 10. | Read and write all digits securely to 100 |

Understanding place value

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
|  | Zero | Zero, place holder, multiple of ten, tens, ones, one digit number, two digit number, how many tens, how many ones, | Partition into  Multiples of |
|  |  | Identify the place value of numbers between 10 and 20  Understand that the zero is a place holder in a 2 digit multiple of ten.  Understand that there are tens and ones in a 2 digit number and say how many tens there are and how many ones there are in any number to 50. | Say how many tens and ones there are in any number between 0-100 |

Problem solving

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
|  |  | Number bonds to (from 1-10)  Operation  calculation  Opposite operation  Place value | Inverse, commutative, reason, |
| Solve real world mathematical problems with numbers up to 5. |  | Use place value and number facts to solve problems. | solve number problems and practical problems.  Begin to explain their reasoning behind problem solving. |

Addition and Subtraction

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
| More less bigger smaller | Numbers to 10- add, plus, count on  Subtract, take away, | Addition, add, more, and make, sum, total, altogether.  Subtract, take away, minus, less  Fact family | number facts, addend, subtrahend, minuend, tens boundary, crossing tens, exchange, find the difference, |
| use practical objects in play and begin to understand when they are adding objects they are making more/bigger group | Explore the composition of numbers to 10.  Automatically recall number bonds for numbers 0–10.  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.  Begin to use the vocabulary for addition and subtraction.  add take away plus minus equals more than less than total combine | Know all number bonds up to 10 and use this to support mental maths.  Consolidate the vocabulary that means addition and subtraction learned in Reception and extend this.  Count on from a given number without having to go back to zero when adding. | Use the language of find the difference  Know when it is best to count up or count back to solve an addition or subtraction.  Solve simple additions and subtraction written in different orientations by applying skills.  Keep a number in their head and count on or back from that number when adding more than 10.  Partition and recombine when adding. |
|  | add and subtract 2 single digit numbers  count on or back to find the answer | Add and subtract 2 single digit numbers written in different orientations.  Add a single digit and 2 digit number crossing the tens  Subtract a single digit from a 2 digit number crossing the tens. | Add and subtract two 2 –digit numbers using a formal written method.  Change tens to ones where needed to support calculation methods. |
| Show an interest in number problems-eg I have 5 biscuits is there enough for everybody. | begins to identify own mathematical problems based on own interests and observations  Solve problems including doubling halving and sharing in a practical context. | solve a single step word problem involving addition or subtraction  Begin to use reasoning skills to explain how a problem was solved. | Identify which operation is needed (+ or -) to solve a problem including problems related to measure.  Solve a multi-step problem involving addition or subtraction.  Explain how a problem was solved.  Solve a maths problem using logical steps and patterns to prove all answers have been found.  Understand that + is commutative and – is not.  Find fact families for + and – and record these in any orientation. |

Multiplying and Dividing

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| Nursery | Reception | Year 1 | Year 2 |
| Vocabulary | Vocabulary | Vocabulary | Vocabulary |
| Same as , share, group, | Double, half, halve | Multiply, lots of, equal groups of , double, times…,  divide by, share into equal groups of, share between, half of,  patterns, count on in 2s, count back iin 2’s, | count on in 2’s 5’s and tens from zero,  times tables  commutative  inverse  product  factor  multiple of  divisor |
| Find objects that are the same  Begin to share.  Songs and rhymes to introduce language of sharing. | Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 including double facts.  Explore and represent patterns within numbers up to 10, including double facts and how quantities can be distributed equally. | Subitising skills: Recognise patterns and images of numbers to 5 (pairs of socks, number 2 on the dice, hands of 5 …) and begin to say what 2 lots of these are without counting all the objects)  Count on in 2’s to 20  Count back in 2’s from 20  Relate doubling to the 2 x tables.  Explain why all even numbers are in the 2 x tables  Double numbers to double 10 and begin to know these.  Know that all multiples of 10 have a zero as a place holder. | Consolidate 2 x tables knowledge from Year 1  Extend to counting on and back in tens and fives.  Know 2 x tables, 5 times tables, 10 times tables.  Understand commutativity for multiplication and that division is not commutative  Find fact families for multiplication and division and write these in any orientation. |

Fractions- Recognising, Finding and Naming Fractions

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
|  | half | Half, equal, two equal parts  Quarter, four equal parts  whole | fraction- numerator denominator, unit fraction. Equivalent fraction,  whole, half, quarter, third, fifth |
|  | To understand that half means one of two equal parts and use this to describe a measurement linked to capacity  Half empty  Half full… | To recognise, find and name a half as one of two equal parts of an object, shape or quantity *by solving problems*.  To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity *by solving problems*.  *To connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.* | To recognise, find, name, identify and write fractions , , ,  and  of a length, number, shape, set of objects or quantity and know that all parts must be equal parts of the whole.  *To connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet  as the first example of a non-unit fraction.*  to write simple fractions for example,  of 6 = 3 and recognise the equivalence and . |
|  |  |  | *To count in fractions up to 10, starting from any number and using the  and equivalence on the number line.* |

Measure

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| Big bigger  Small smaller  More less | Big bigger biggest  Small smaller smallest  Heavier lighter  Empty full, half full half empty, nearly empty  Longer shorter | Empty, nearly empty, half full, full  Before, after, longer, later, shorter, earlier  Long, longer, longest  Short,  Heavy light shorter shortest  Tall, taller, tallest  Measure, compare less than more than | Units of measure:  Millimetres, centimetres, metres, kilometres  Gram kilogram  Millilitre litre  Tonne  Degrees |
| Make comparisons between objects relating to size, length, weight and capacity. | Compare length, weight  and capacity. | To compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume, time.  To measure and begin to record the following: lengths and heights, mass/weight, capacity and volume, time.  *To move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous (for example, liquid) measurement, to using manageable common standard units using measuring tools, such as a ruler, weighing scales and containers.* | To choose and use appropriate standard units *with increasing accurac*y *using their knowledge of the number system* 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.  *To use the appropriate language and record using standard abbreviations.*  Tocompare and order lengths, mass, volume/capacity and record the results using >, < and =.  *To compare measures including simple multiples such as ‘half as high’; ‘twice as wide’.* |

Time

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| First then | Days of the week  Morning, afternoon, evening  Minute  Second | Month names  Earlier  Later  First second…  O clock half past | Second, minute, hour, day week, month, fortnight, year  Quarter past/to  5 minute time for GD  Analogue  Digital |
| Begin to describe a sequence of events, real or fictional, using words, such as ‘first’, ‘then...’ | Sing songs about days of the week and order them  Talk about the events that happen at certain times of the day  Eg in the morning I …  Introduce vocab of seconds and minutes in a practical activity  Eg How many times can you jump in a minute.. | To sequence events in chronological order using language.  To recognise and use language relating to dates, including days of the week, weeks, months and years.  To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. | To read, tell and write the time to five minutes, including quarter past/to the hour/half hour and draw the hands on a clock face to show these times.  To become fluent in telling the time on analogue clocks and recording it.  To know the number of minutes in an hour and the number of hours in a day. To compare and sequence intervals of time. |

Geometry – identify and name 2D and 3D shape

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| Triangle, square, circle rectangle | Hexagon pentagon  Cuboid cylinder sphere cone cube | Circle rectangle hexagon octagon triangle semi circle oval  base,  cuboid cube cylinder sphere cone pyramid | Prism, (rectangular, hexagonal,) pyramid (square based, circular based)  Apex, vertices, symmetrical, edges, faces, sides, |
| Name a square, circle, triangle and rectangle when shown an image. | To name common 2D and 3D shapes  Select, rotate and manipulate shapes in order to develop spatial reasoning skills | To recognise, handle and name common 2D and 3D shapes  in different orientations/sizes and relate everyday objects fluently.  To recognise that rectangles, triangles, cuboids and pyramids are not always similar to each other. | Pupils read and write names for shapes that are appropriate for their word reading and spelling.  To handle, identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.  To handle, identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.  To identify 2D shapes on the surface of  3D shapes. |

Properties of shape

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
|  | Sides, corners, circle, square, rectangle, oval, hexagon, octagon,  Cube, ball,  Straight, flat, round, | Vertices, corners, curved sides, straight sides – names of shapes from EY plus pentagon and heptagon  Cube, cuboid, sphere, pyramid, cone, solid, flat face, edge. | Names of shapes plus quadrilateral, rhombus, trapezium, semi circle  Prism, square based pyramid, circular based pyramid, apex, symmetrical, line of symmetry. |
| Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’; ‘straight’,  ‘flat’, ‘round’.  Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.  Combine shapes to make new ones - an arch, a bigger triangle etc. | Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.  Select, rotate and manipulate shapes in order to develop spatial reasoning skills.  Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. | To identify, compare and sort some common 2D and 3D shapes and everyday objects on the basis of their properties and begin to use vocabulary. | To identify, compare and sort 2D and 3D shapes and everyday objects on the basis of their properties and use additional vocabulary precisely.  *Pupils draw lines and shapes using a straight edge.* |

Position and direction

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| Under in front behind | Above, below, to the side, | Clockwise etc,,see below | See below |
| Understand position through words alone – for example, “The bag is under the table,” – with no pointing.  Describe a familiar route.  Discuss routes and locations, using words like ‘in front of’ and ‘behind’ | Draw information from a simple map.  (mathematical vocabulary needed for UTW) | To describe position, direction and movement, including whole, half, quarter and three-quarter turns in both directions and connect clockwise with the movement on a clock face.  To use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside. | To 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 anticlockwise). |

Patterns

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
| See below- eg pointy spotty.. | Repeating pattern | Pattern sequence predict. | Predict |
| Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc.  Extend and create ABAB patterns – stick, leaf,  stick, leaf.  Notice and correct an error in a repeating pattern. | Continue, copy and create repeating patterns. | To order and arrange combinations of mathematical objects and *shapes, including those in different orientations,* in patterns and sequences. | Predict further steps in patterns based on those already seen. |

Statistics

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
|  |  |  | Pictogram, block graph tally chart, table, chart, data, difference, more than least popular lost popular  Scale  Key  symbol |
|  |  |  | *To record, interpret, collate, organise and compare information.*  To interpret and construct simple pictograms, tally charts, block diagrams and simple tables *(e.g. many-to-one correspondence in pictograms with simple ratios 2, 5, 10 scales).*  To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.  To ask and answer questions about totalling and comparing categorical data. |

Money

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| Nursery | Reception | Year 1 | Year 2 |
| vocabulary | vocabulary | vocabulary | vocabulary |
|  |  | Coins, pence, notes pounds |  |
|  |  | recognise and know the value of different denominations of coins and notes | 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 |