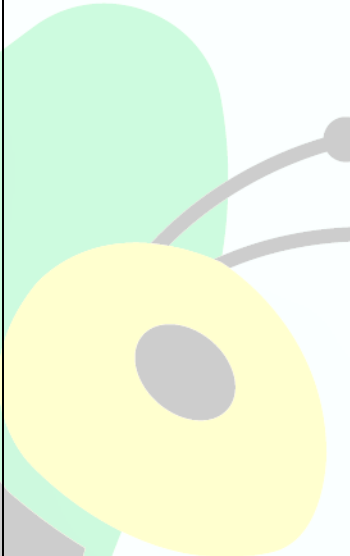
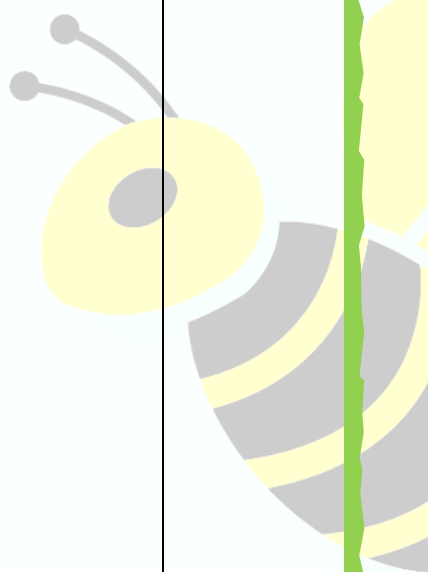


Mathematics in the **Early Years** involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure. The principal focus of mathematics teaching in **Key Stage 1** is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length. By **lower Key Stage 2**, pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. By **upper Key Stage 2**, pupils should be fluent in arithmetic and develop their ability to solve a wider range of problems, including using algebra.

| EYFS Strand         | End of Nursery   | End of Reception   | Year One  |
|---------------------|--|--|---|
| Numbers/Place Value | <ul style="list-style-type: none"> <li>* To recognise, name and match colours</li> <li>* To explore numbers 1 to 5 through songs (five current buns, 5 little monkeys, 1,2,3,4,5 once I caught a fish alive, 5 little ducks) and repetitions by the adults.</li> <li>* Take part in finger rhymes with numbers.</li> <li>* To talk about 1.</li> <li>* To give 1 item on request.</li> <li>* To talk about 2</li> <li>* To give 2 items on request.</li> <li>* To recognise 1 or 2 objects by subitising</li> <li>* To recite numbers to 5.</li> <li>*Use counting like behaviour, such as making sounds, pointing or saying some numbers in sequence</li> <li>* To talk about 3.</li> <li>* To recognise 1,2 or 3 objects when subitising.</li> </ul> | <ul style="list-style-type: none"> <li>* To count objects, actions and sounds, saying the numbers in order and matching one number name to each item.</li> <li>* To record quantities in different ways such as tallies.</li> <li>* Play games that involve counting.</li> <li>*To sing number songs (counting to 20)</li> <li>* To count out a smaller number from a larger group: 'give me seven'.</li> <li>* To link the number symbol (numeral) with its cardinal number value.</li> <li>* To use five frames and ten frames, learning the structure of the number system.</li> <li>* To count by rote to 20.</li> <li>* To count back from 10.</li> <li>*Compare quantities up to 10 in different contexts, recognising when</li> </ul> | <ul style="list-style-type: none"> <li>• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>• Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li> <li>• Given a number, identify one more and one less</li> <li>• Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li>• Read and write numbers from 1 to 20 in numerals and words</li> </ul> |

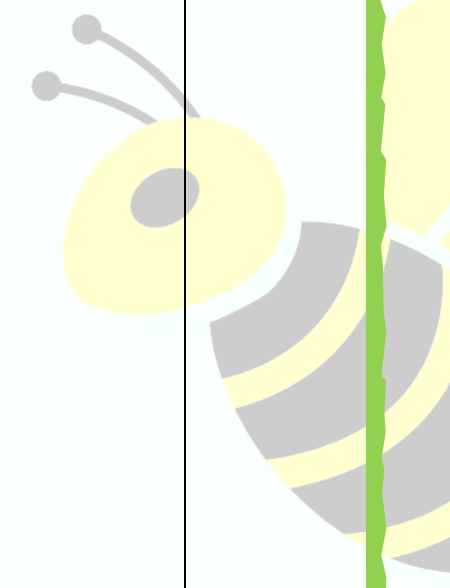
## ASPIRE

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|  | <ul style="list-style-type: none"><li>* To recite the numbers to 10.</li><li>* React to changes of amount in a group of up to three items.</li><li>*Fast recognition of up to 3 objects – subitising</li><li>* Experiments with their own symbols and marks as well as numerals.</li><li>*Count in everyday contexts, sometimes skipping numbers – ‘1-2-3-5’</li><li>*Know that the last number reached when counting a small set of objects tells you many there are in total.</li><li>* To talk about 4.</li><li>* To recognise 1,2,3 and 4 objects when subitising.</li><li>* To count to 10 from a given number.</li><li>* To know that the last number reached when counting a small set of objects tells you how many there are in total.</li><li>*React to changes of amount in a group of up to three items</li><li>* To talk about 5.</li><li>* To recognise up to 3 objects without counting.</li><li>* To recognise 1,2,3,4, and 5 objects when subitising.</li><li>* To compare two groups of objects.</li><li>* To play games with a dice and track.</li><li>*Use fingers to represent amounts up to 5</li><li>*Link numerals and amounts (for example, showing the right</li></ul> | <ul style="list-style-type: none"><li>one quantity is greater than less than or the same as the quantity.</li><li>* Subitise up to 5.</li><li>* To count on from a given number to 20.</li><li>* Count beyond 10, counting verbally beyond 20.</li><li>*Explore and represent patterns within numbers up to 10, including evens and odds</li><li>* To use the number bonds to 10 to solve problems.</li><li>* To talk about the odd and even numbers to 10.</li><li>* Have a deep understanding of number to 10, including the composition of each number.</li><li>* Automatically recall number bonds up to 5 and some number bonds to 10, including double facts.</li><li>* Explore and represent patterns within numbers up to 10, including even and odds.</li><li>*Verbally count beyond 20, recognising the patterns of the counting system.</li></ul> |  |
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## ASPIRE



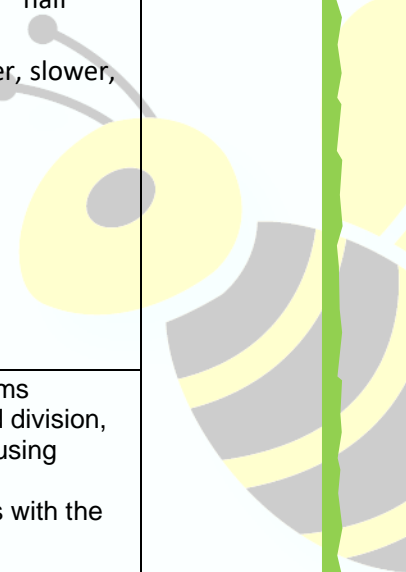
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|  | <p>number of objects to match the numeral, up to 5</p> <ul style="list-style-type: none"> <li>* Solve real world mathematical problems with numbers up to 5.</li> <li>* To solve number problems to 5.</li> <li>* To use my fingers in different ways to show 5.</li> <li>* To represent numbers to 5 with marks.</li> <li>* To identify missing numbers to 10.</li> <li>* To match numeral to quantity to 5.</li> <li>* To make up my own rules to games.</li> <li>* To count in everyday contexts, sometimes skipping numbers - '1-2-3-5'</li> <li>* Link numerals and amounts (for example, showing the right number of objects to match the numeral) up to 5.</li> <li>* To sort by attribute</li> </ul> |  |  |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Addition and subtraction</b></p> | <ul style="list-style-type: none"> <li>*Combine objects like stacking blocks and cups.</li> <li>* I know that a quantity changes if something is added or taken away.</li> <li>*Puts objects inside others and takes them out again.</li> <li>*Compare quantities using language: 'more than', 'fewer than'</li> <li>* To give 3 items on request.</li> <li>* To compare amounts, saying 'lots', 'more' or 'same'.</li> <li>* To give 4 items on request.</li> <li>* To partition 3 or 4 objects.</li> </ul>   | <ul style="list-style-type: none"> <li>*Compare amounts using vocabulary more/fewer and the same</li> <li>* To count out a smaller number from a larger group: 'give me seven'.</li> <li>* To recognise small quantities in different arrangements – subitising</li> <li>* I understand the 'one more than/one less than' relationships between consecutive numbers, making predictions about what the outcome will be in stories, rhymes and songs if one is added or taken away</li> </ul> | <ul style="list-style-type: none"> <li>• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>• Represent and use number bonds and related subtraction facts within 20</li> <li>• Add and subtract one-digit and two-digit numbers to 20, including zero</li> <li>• Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math>.</li> </ul> |



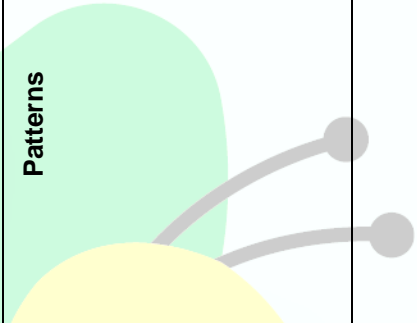
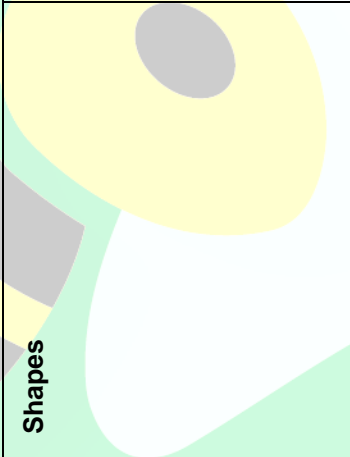
|   |   |   |   |
|---|---|---|---|
|   | <p>*React to changes of amount in a group of up to three items.<br/>                 * To partition 5 objects.<br/>                 * To talk about how to make 3,4 and 5.<br/>                 * Solve real world mathematical problems with numbers up to 5<br/>                 * To make up my own rules to games.</p>  | <p>* Compare numbers, using the vocabulary of more than, less than, fewer, the same as, equal to.<br/>                 * To estimate a total before counting<br/>                 * To combine two groups and say how many altogether<br/>                 * To say the number one more/less than a given number 1 - 10.<br/>                 *Compare quantities up to 10 in different contexts, recognising when one quantity is greater than less than or the same as the quantity.<br/>                 * Subitise up to 5<br/>                 * To discuss composition of numbers to 10, showing some recall of number facts.<br/>                 * To subtract single digit numbers.<br/>                 * To subtract to 10.<br/>                 * Exploring the composition of numbers to 10 through subitising, doubling and partitioning.<br/>                 * Have a deep understanding of number to 10, including the composition of each number.</p> |   |
| <p><b>Measure (Length, Weight, Height, Volume, money)</b></p> | <p>* To compare sizes, weight etc using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.<br/>                 * To talk about long and short.<br/>                 * To make comparisons between objects relating to height and capacity.<br/>                 * To talk about full and empty.<br/>                 *Make comparisons between objects relating to size, length, weight and capacity</p> | <p>*Compare length, weight and capacity using comparative language using 'than'.<br/>                 * To make a direct comparison using tall and short.<br/>                 *Compare length, weight and capacity using comparative language using 'than'.<br/>                 *Use everyday language to discuss length, size, height, weight, time, position and capacity. Use this language to make simple</p>   | <ul style="list-style-type: none"> <li>• recognise and know the value of different denominations of coins and notes</li> <li>• compare, describe and solve practical problems for:</li> <li>• * lengths and heights * mass/weight [e.g. heavy/light, heavier than, lighter than]</li> </ul> |

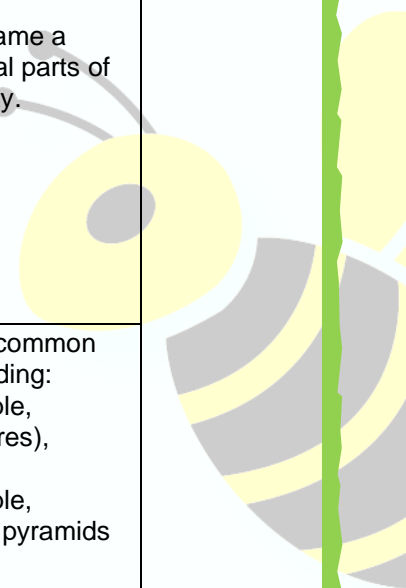
## ASPIRE

|                            |  |   |  |
|----------------------------|--|---|--|
|                            | <ul style="list-style-type: none"><li>* To understand and use the language: heavy and light.</li><li>* To understand and use the language tall and short.</li><li>* To handle coins as part of role play</li></ul> | <p>observations, e.g. this is heavier than that.</p> <ul style="list-style-type: none"><li>* To use language and make direct comparisons of capacity.</li><li>* Make predictions and link their knowledge of number to their work on measures, e.g. <i>The red car weighed 4 cubes and the green one is heavier so it might weigh 6 cubes.</i></li><li>* To use language and make direct comparisons of weight</li><li>* To handle and talk about coins</li></ul> | <ul style="list-style-type: none"><li>* capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter]</li><li>time [e.g. quicker, slower, earlier, later]</li></ul>  |
| <b>Multiply and divide</b> |  | <ul style="list-style-type: none"><li>* To double numbers.</li><li>* To share objects between 2.</li><li>* Exploring the composition of numbers to 10 through subitising, doubling and partitioning.</li></ul>  | <ul style="list-style-type: none"><li>• 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.</li></ul> |

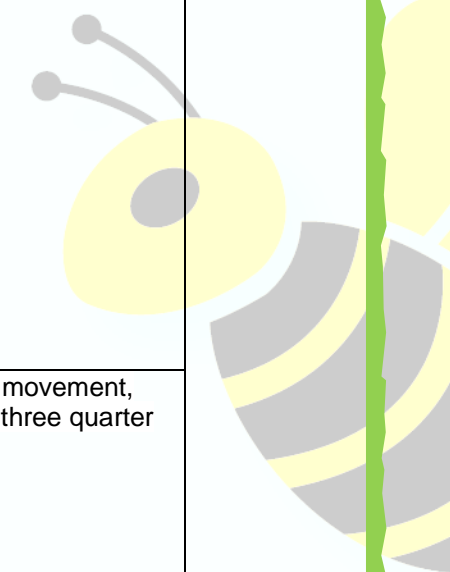


## ASPIRE

|  |  |   |   |
|--|--|---|---|
| <p><b>Patterns</b></p>  |  | <ul style="list-style-type: none"> <li>* Explore and represent patterns within numbers up to 10, including even and odds.</li> <li>* To continue, copy and create repeating patterns: AB, ABB patterns.</li> <li>* Continue, copy and create repeating patterns: ABBC patterns.</li> <li>* To make my own ABBC pattern.</li> <li>* To create a pattern that has a fixed number of spaces.</li> </ul>  | <ul style="list-style-type: none"> <li>• Recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li>• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul>                                       |
| <p><b>Shapes</b></p>   | <ul style="list-style-type: none"> <li>* To identify attributes: heavy, full.</li> <li>* To copy a 2-part pattern.</li> <li>* To notice patterns and arrange things in provision.</li> <li>* Talk about and identify the patterns around them, use informal language like; pointy, spotty, blobs</li> <li>* Start to notice and correct an error in a repeating pattern</li> <li>* To spot an error in a pattern.</li> <li>* To find shapes in the environment; circles, triangles, squares, rectangles.</li> <li>* To identify and name squares, rectangles, circles, triangles.</li> <li>* To continue a 2 part pattern.</li> <li>* To describe 2D shapes using the words curved, straight.</li> <li>* To make my own pattern.</li> <li>* To use the language: 'straight, flat, round, sides, corners' to describe shapes.</li> <li>* To select 3D shapes appropriately for building.</li> </ul> | <ul style="list-style-type: none"> <li>* To select, rotate and manipulate shapes in order to develop spatial reasoning skills.</li> <li>* To continue, copy and create repeating patterns: AB, ABB patterns.</li> <li>* To find 2D shapes within 3D shapes.</li> <li>* To identify straight and curved sides on 2D shapes and flat and curved faces on 3D shapes.</li> <li>* To identify and name 3D shapes (cylinder, cube, cuboid, sphere) talk about their properties.</li> <li>* Understand and use correct mathematical language to describe 2D and 3D shapes (e.g., vertices, sides, edges, faces, flat, curved).</li> <li>* To compose and decompose shapes so that children recognise a shape can have other shapes within it, investigate how shape can be combined to make new shapes.</li> </ul> | <ul style="list-style-type: none"> <li>• Recognise and name common 2-D and 3-D shapes, including:</li> <li>• 2-D shapes [for example, rectangles (including squares), circles and triangles]</li> <li>• 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</li> </ul> |



# ASPIRE



Space

|  |  |  |  |
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|  | <ul style="list-style-type: none"><li>*Talk about and explore 2D shapes, playing freely with blocks, shapes, shape puzzles and shape-sorters</li><li>*Combine shapes to make new ones – an arch, a bigger triangle.</li><li>* To use 3D shapes to build and use the words: 'straight, flat, round, sides, corners'.</li><li>* To combine shapes to make new shapes.</li><li>* To use shapes to build for a purpose.</li></ul>  |  |  |
|  | <ul style="list-style-type: none"><li>* Climb and squeeze themselves into different types of spaces</li><li>* Build with a range of resources.</li><li>* To understand and use the language 'in, on, under'.</li><li>* To understand and use the language 'big/small' long, tall, short, high.</li><li>* To understand and follow 'forwards, backwards'.</li><li>* To understand and use 'up, down, across, above, over'.</li><li>* Complete farm puzzles</li><li>* To name different patterns in the environment.</li></ul> | <ul style="list-style-type: none"><li>* To select, rotate and manipulate shapes in order to develop spatial reasoning skills.</li><li>* To understand and use the language: next to, between, below, above, under, in front, behind, close to, far away.</li><li>* To order a simple sequence of events.</li><li>* To compose and decompose shapes so that children recognise a shape can have other shapes within it, investigate how shape can be combined to make new shapes.</li><li>* To understand and use the words: near, far, direction, left, right, towards, fast, slow, nearest, furthest.</li></ul> | Describe position, direction and movement, including whole, half, quarter and three quarter turns. |

## ASPIRES

|                               |   |  |   |
|-------------------------------|---|--|---|
| <b>Time</b>                   | <ul style="list-style-type: none"><li>* To use the language: 'first, then, next, last' to describe time.</li></ul>  | <ul style="list-style-type: none"><li>* To recite the days of the week/months</li><li>* I am beginning to understand yesterday, today, tomorrow.</li><li>* To understand morning, afternoon, day, night.</li><li>* To order a simple sequence of events.</li></ul> | <ul style="list-style-type: none"><li>• Recognise and use language relating to dates, including days of the week, weeks, months and years.</li><li>• Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</li></ul> |
| <b>Position and Direction</b> | <ul style="list-style-type: none"><li>* To understand positions (off, down, up, across, under, on) through words alone with no pointing.</li><li>* To describe a familiar route, using spatial words; in, on, under, up, down and besides and between</li><li>*Discuss routes and locations using words like 'in front of' and 'behind', reading stories about journey's.</li><li>*Begin to describe a sequence of events real or fictional, using words such as: first, then</li><li>*Understand position through words alone, for example 'The bag is under the table' with no pointing.</li><li>*Describe a familiar route, using spatial words: in, on, under, up, down, besides and between.</li></ul> | <ul style="list-style-type: none"><li>* To understand and use the words: near, far, direction, left, right, towards, fast, slow, nearest, furthest.</li></ul>  | <ul style="list-style-type: none"><li>• describe position, direction and movement, including whole, half, quarter and three-quarter turns</li></ul>   |

