



Subject : Mathematics

- Number
- Shape, space and measure

Links to: Maths

Term: Autumn, Spring, Summer

Characteristics of Effective Learning

- Playing and exploring – engagement
- Active learning – motivation
- Creating and thinking critically - thinking

Statements: 3-4

• Fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • 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. • Experiment with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than'. • 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'. • 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'. • Make comparisons between objects relating to size, length, weight and capacity. • 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. • Talk about and identifies 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. • Begin to describe a sequence of even.

Reception

• Count objects, actions and sounds. • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Count beyond ten. • Compare numbers. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0–10. • 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. • Continue, copy and create repeating patterns. • Compare length, weight and capacity.

ELG – Mathematics

Number • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • 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.

Numerical Patterns • Verbally count beyond 20, recognising the pattern of the counting system. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

 Vocabulary Mathematics: Number	 Knowledge Children will know that...	 Understanding Children will understand that...	 Skills What children will be able to do Activities in FS at OWPS
<p>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) is the same as more, less</p> <p>Place Value digit the same number as, as many as, more, larger, bigger, greater fewer, smaller, less fewest, smallest, least, most, biggest, largest, greatest, one more, one less, order size first, second, third... twentieth last, before, after next between</p> <p>Estimating guess how many...? estimate nearly close to about the same as just over, just under too many, too few enough, not enough</p> <p>Addition and Subtraction Add, adding, more, and make, total altogether double how many more to make..? how many altogether? one more, two more how many more is.... than....? how many more is....? take away how many are left/ left over? How many have gone? one less, two less how many fewer is... than..? how</p>	<p>Some numbers are significant to them e.g. 'I am 5', 'I live at number 7'.</p> <p>Each number has a written representation.</p> <p>Objects need to be counted one at a time.</p> <p>Actions can be counted.</p> <p>Objects must be counted accurately.</p> <p>The number of objects and written representations can be matched.</p> <p>The number of objects can be estimated and checked.</p> <p>Understand the term 'altogether' when counting two sets of objects.</p> <p>Understand the term 'one more' and one less'.</p> <p>Use a range of vocabulary linked to addition and subtraction.</p>	<p>Numbers can be found in a range of places e.g. on favourite toys, birth dates or telephone numbers.</p> <p>Different games such as hide and seek involve counting.</p> <p>Rhymes, songs and stories involving counting on and counting back in ones, twos, fives and tens.</p> <p>The concept of nothing or zero.</p> <p>They are encouraged to count the things they see and talk about and use numbers beyond ten.</p> <p>Numbers are in a particular order.</p> <p>Numbers can be identified by their written representation</p> <p>Actions like jumps and claps can be counted.</p> <p>How to count accurately objects up to 10.</p> <p>They can estimate an amount using a range of strategies.</p> <p>They can use mathematical vocabulary and demonstrate methods of recording, using standard notation where appropriate.</p>	<p>Autumn term</p> <ul style="list-style-type: none"> • Introduce the concept of counting. • Introduce numbers and their written representations. • Use 'White Rose' to introduce concepts in maths. • Use a 'tens frame' when counting. • Plan to incorporate a mathematical component in areas such as the sand, water or other play areas. • Play games that involve counting. • Play opportunities that involve ordering numbers. • Provide 'number hunt' opportunities in free flow play. • Activities that involve numbers and ordering e.g. 10 green bottles in order. • Teach the concept of 'one more and one less'. • Sing number songs such as 'ten little speckled frogs'. • Include counting money and change in role-play games. • Provide story props that children can use in their play, e.g. varieties of fruit and several baskets like Handa's in the story Handa's Surprise by Eileen Browne. • Create link with addition and 'altogether'. • Introduce addition and its symbol and adjoining vocab. • Introduce subtraction, its symbol and adjoining vocab. • Free flow resources linked to counting available in maths area. • Resources available in garden area that encourage counting. • Number identification games. • Number games using Bee-bots (identifying numbers)



<p>much less is...? difference between subtract</p> <p>Multiplication and Division Sharing Halving Doubling</p> <p>Fractions half $\frac{1}{2}$ quarter $\frac{1}{4}$</p> <p>Measurement Size compare enough, not enough too much, too little too many, too few nearly close to, about the same as just over/under</p> <p>Length/ Height/ Distance Length, height, Long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher longest, shortest, tallest, highest far, near, close</p> <p>Weight weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales</p> <p>Capacity and Volume full, half full, empty holds container</p> <p>Money money coin penny, pence, pound price, cost buy, sell spend, spent pay change</p>	<p>Marks can be made to represent numbers.</p> <p>Numbers and counting can be part of play.</p>	<p>Objects can be compared using the terms 'more' and 'less'.</p> <p>Amounts of objects can be shared between two or more people.</p> <p>Objects can be grouped when counting.</p>	<p>Spring term</p> <ul style="list-style-type: none"> • Continue to embed number within the curriculum. • Embed the concept of numbers and their written representations. • Continue to reinforce the concept of 'one more and one less'. • Continue to work on addition and recall its symbols. (-=) • Continue to work on subtraction and recall its symbols (-=) • Introduce concept of 'part, part, whole' when working on addition. • Continue to use 'White Rose'. • Continue to embed the use of the 'tens frame' in maths. • Continue to embed 'part, part, whole' when looking at addition. • Free flow resources linked to counting available in maths area. • Resources available in garden area that encourage counting. • Number identification games. • Number games using Bee-bots (identifying numbers) • Continue to refer to mathematical vocab within our learning and play. • Sing number songs such as 'ten little speckled frogs'. • Include counting money and change in role-play games. • Continue to provide opportunities to use counting within play e.g. counting within the role play area. <p>Summer term</p> <ul style="list-style-type: none"> • Continue to embed number within the curriculum. • Introduce counting in groups (multiplication). • Introduce the concept of 'sharing' as early division. • Practise grouping objects to count. • Embed the concept of numbers and their written representations. • Continue to reinforce the concept of 'one more and one less'. • Continue to work on addition and recall its symbols. (-=) • Continue to work on subtraction and recall its symbols (-=) • Introduce concept of 'part, part, whole' when working on addition. • Continue to use 'White Rose'.
---	---	--	--



			<ul style="list-style-type: none"> • Continue to embed the use of the 'tens frame' in math's. • Continue to embed 'part, part, whole' when looking at addition. • Free flow resources linked to counting available in math's area. • Resources available in garden area that encourage counting. • Number identification games. • Number games using Bee-bots (identifying numbers) • Continue to refer to mathematical vocab within our learning and play. • Sing number songs such as 'ten little speckled frogs'. • Include counting money and change in role-play games. • Continue to provide opportunities to use counting within play e.g. counting within the role play area.
--	--	--	---

 Vocabulary Mathematics: Shape, space and measure	 Knowledge Children will know that	 Understanding Children will understand	 Skills What children will be able to do Activities in FS at OWPS
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,	There are 2D shapes. There are 3D shapes. The correct vocabulary can be used to describe shapes e.g. flat, solid. 2D and 3D shapes have names. Describe using positional language.	2D shapes can be described as 'flat' shapes. 2D shapes have corners, sides and faces. 3D Shapes can be described as 'solid' shapes. 3D shapes have edges, vertices and faces. Particular vocabulary is used to describe 2D and 3D shapes.	Autumn term <ul style="list-style-type: none"> • Give children opportunities to explore shapes through play. • Encourage children to build and make using shape. • Go on a shape hunt around OWPS. • Play 'Shape Hunts' in the garden. • Adult support to encourage talk about shape. • Create firework picture using 2D shapes.



<p>newer, newest takes longer, takes less time hour, o'clock, half past, clock, watch, hands</p> <p>Properties of Shape shape, flat, curved, straight, round, hollow, solid sort size bigger, larger, smaller symmetrical, pattern, repeating pattern match</p> <p>2-D shape Rectangle (including square) circle triangle Corner Side</p> <p>3-D shape Cube, pyramid, sphere, cone, cuboid Face Edge Vertex Vertices</p> <p>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 between 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, crawl, bend, whole turn, half turn</p>	<p>Use a variety of math's resources to create a pattern e.g blocks to create a pattern.</p> <p>Use a variety of math's resources to build a model e.g. shapes to build a rocket.</p> <p>Time has a meaning and can be measured.</p> <p>A clock can be read.</p> <p>Money is used to pay for items.</p> <p>Coins can be counted.</p>	<p>Positional language can be used to describe the position on an object.</p> <p>Objects can be ordered by length and height.</p> <p>Objects can be ordered depending on their size and weight.</p> <p>Shapes can be used to create patterns.</p> <p>Shapes can be used to create pictures and build models.</p> <p>Tell the time to the hour and half past the hour.</p>	<p><u>Spring term</u></p> <ul style="list-style-type: none"> • Children are given opportunities to explore shapes through play. • Adults support and promote further investigation. • Adult led groups exploring shape. • Encourage children to build and make using shape. • Use the outside area to promote shape play e.g. make a shape using sticks. • Create models using different resources linked to shape. • <p><u>Summer term</u></p> <ul style="list-style-type: none"> • Give children opportunities to explore shapes through play. • Encourage children to build and make using shape. • Use the outside area to promote shape play e.g. make a shape using sticks. • Create models using different resources linked to shape.
---	--	---	---

