



Burnham-on-Crouch Primary School  
EYFS Long Term Maths Planning 2022-23



**ELG:**

Number	Numerical Patterns
<ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number.</li> <li>• Subitise (recognise quantities without counting) up to 5.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Verbally count beyond 20, recognising the pattern of the counting system.</li> <li>• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other Quantity`.</li> <li>• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally</li> </ul>

**Development Matters:**

Mathematics	
Birth to 3	<ul style="list-style-type: none"> <li>• Combine objects like stacking blocks and cups. Put objects inside others and take them out again.</li> <li>• Take part in finger rhymes with numbers.</li> <li>• React to changes of amount in a group of up to three items.</li> <li>• Compare amounts, saying 'lots', 'more' or 'same'.</li> <li>• Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.</li> <li>• Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'</li> <li>• Climb and squeezing selves into different types of spaces.</li> <li>• Build with a range of resources.</li> <li>• Complete inset puzzles.</li> <li>• Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.</li> <li>• Notice patterns and arrange things in patterns.</li> </ul>
3 to 4	<ul style="list-style-type: none"> <li>• Fast recognition of up to 3 objects, without having to count them individually ('subitising').</li> <li>• Recite numbers past 5.</li> <li>• Say one number for each item in order: 1,2,3,4,5.</li> <li>• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> <li>• Show 'finger numbers' up to 5.</li> <li>• Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> <li>• Experiment with their own symbols and marks as well as numerals.</li> <li>• Solve real world mathematical problems with numbers up to 5.</li> <li>• Compare quantities using language: 'more than', 'fewer than'.</li> <li>• 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'.</li> <li>• Understand position through words alone – for example, "The bag is under the table," – with no pointing.</li> <li>• Describe a familiar route.</li> <li>• Discuss routes and locations, using words like 'in front of' and 'behind'.</li> <li>• Make comparisons between objects relating to size, length, weight and capacity</li> <li>• Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</li> <li>• Combine shapes to make new ones – an arch, a bigger triangle etc.</li> <li>• 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.</li> <li>• Extend and create ABAB patterns – stick, leaf, stick, leaf.</li> <li>• Notice and correct an error in a repeating pattern.</li> <li>• Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</li> </ul>
Reception	<ul style="list-style-type: none"> <li>• Count objects, actions and sounds.</li> <li>• Subitise.</li> <li>• Link the number symbol (numeral) with its cardinal number value</li> <li>• Count beyond ten.</li> <li>• Compare numbers</li> <li>• Understand the 'one more than/one less than' relationship between consecutive numbers.</li> <li>• Explore the composition of numbers to 10.</li> <li>• Automatically recall number bonds for numbers 0–10.</li> <li>• Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</li> <li>• Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</li> <li>• Continue, copy and create repeating patterns.</li> <li>• Compare length, weight and capacity.</li> </ul>



### **Continuous Provision**

*Children should have continuous access within the maths area to shape, space and measure through: peg boards, pattern cards, multilink, balance buckets, timers, coins, tape measures, non-fiction texts, nesting boxes, which is built upon over the year.*



### **Outdoor Maths Provision**

*Maths provision should also be available outside at all times. Larger items and natural objects should be used.*





## SIX KEY AREAS OF EARLY MATHEMATICS LEARNING



### Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents.



### Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other.



### Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers.



### Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships.



### Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking.



### Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later.



## Why is early maths important?

*'Mathematics plays a key role in a child's development. Very young children are naturally curious, noticing differences in quantity and the shape of objects, and using early mathematical concepts when they play. Mathematical understanding helps children make sense of the world around them, interpret situations, and solve problems in everyday life, whether that's understanding time, sharing amounts with their peers, or counting in play. Developing a sound understanding of mathematics when we are young is essential. Children's early mathematical understanding is strongly associated with their later school achievement. It has, therefore, a major impact on young people's educational progress and life outcomes'*  
(Francis, B 2020)

We know from research that a key focus for early mathematics is developing number sense, e.g. 'the fiveness' of 5. Other early predictors of success are:

- Recognising numbers from dice and dominoes patterns
- Comparing numbers like 5 and 7, saying which is more
- Predicting the result of adding or taking away one

After this, research tells us that, children need to develop an understanding of numbers as made up of other numbers, and number combinations (Geary, 2011; Gifford, 2014).

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep conceptual understanding of the numbers to 10, the relationships between them and the patterns therein.

By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives – children will develop a secure base of knowledge from which mathematical mastery is built.

In addition, children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them.





### **Plan daily activities targeting specific maths concepts and skills:**

- Focus on supporting children to develop specific mathematical ideas and skills, taking into account developmental progressions.
- Use whole-class, large and small groups to tailor instruction for children who need support on different aspects of content.
- Explore maths through different contexts, including books, puzzles, songs, rhymes, puppet play and games. Use these to teach specific concepts which match the children's next mathematical steps in learning

### **Reinforce mathematical vocabulary and create opportunities for discussion of mathematics**

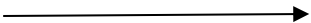

- Seize chances to reinforce mathematical vocabulary—for example by making a comment about which child is standing 'first', 'second', or 'fourth' in line, which child has 'more than' or 'fewer' objects than another child, or helping children rephrase statements that use ambiguous, non-mathematical language, such as refining 'big' when the child means 'tall'.
- Once children are comfortable with using informal language, practitioners can begin to introduce more formal mathematical vocabulary.
- Create opportunities for extended discussion of mathematical ideas with individuals or small groups of children in order to extend their thinking, e.g. sustained shared thinking.
- Tune into the child's behaviour and motivations, responding to what children are saying and using a variety of techniques to help develop and extend children's thinking, e.g. asking open-ended questions.

### **Highlight mathematics across the day**

- Everyday routines such as registration time, snack time, and tidying up provide opportunities for counting and comparison as well as addition, subtraction, sharing, and time problems. Provide daily opportunities to vote for activities, such as choosing a favourite book to read at story time, as this is a good way to explore counting and the comparison of number.
- Provide a variety of tools to allow children to explore all areas of mathematics, both indoors and out, e.g. manipulatives, measuring items, scales, construction materials, puzzles, sorting and pattern materials.
- Identify 'teachable moments' during play. Ensure that practitioners have the time and availability to engage with children in their self-directed play in order to maximise these 'teaching moments'.



**Number Sense:**

Lesson	Focus (introduce 1 number a week – 1-10, 0, 11-20)	Possible activities
1 (full lesson)	<p>Recap last number and introduce new number. Look at relationship between number and previous ones. Look at representations of the number – dots, fingers, symbol, tally, multilink tower, Numicon tile, 5/10 frame. Change the display   Make the number with objects – create display/ individual books. Show objects close together and far apart, objects that are the same and objects that are different</p>	<ul style="list-style-type: none"> <li>• Dot cards</li> <li>• Find the number – cards with this number/ picture of objects to represent this number and others taught – find this number.</li> <li>• Add to a 5/10 frame and discuss.(10 frame could be crate, egg box etc)</li> <li>• Counting objects/ actions/ sounds</li> <li>• Find the number</li> <li>• Add to a number track</li> <li>• Create towers to represent the number and all numbers that come before it</li> <li>• Numicon and objects</li> <li>• Fishing games</li> <li>• 1 more/ less</li> <li>• Sharing (odd and even)</li> <li>• Allow children time to compare work and share ideas.</li> <li>• Teach different strategies</li> <li>• Use real life objects where possible</li> </ul>
2 input	<p>Look at number – find the Numicon tiles Count objects to represent the number, build towers, bricks, lego.</p>	
3 input	<p>5/10 frame – make the number – talk about how it could be made but still the same amount</p>	
4 full lesson (application)	<p>Exploration of the number in different representations Sort images that represent the number from images that represent other numbers</p>	



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\*\*Subitising is recognising how many things are in a group without having to count them one by one. Children need opportunities to see regular arrangements of small quantities, e.g. a dice face, structured manipulatives, etc., and be encouraged to say the quantity represented. Children also need opportunities to recognise small amounts (up to five) when they are not in the 'regular' arrangement, e.g. small handfuls of objects.\*\*

We follow the White Rose Scheme for EYFS. Each Phase will be taught over 3 weeks. One piece of recorded work will take place per week.

Year Overview:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	<b>Getting to know you</b> (Take this time to play and get to know the children!)  Contains overviews and frequently asked questions  <a href="#">VIEW</a>			<b>Just like me!</b> Match and sort Compare amounts Compare size, mass & capacity Exploring pattern  <a href="#">VIEW</a>			<b>It's me 1, 2, 3!</b> Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3 Circles and triangles Positional language  <a href="#">VIEW</a>			<b>Light &amp; dark</b> Representing numbers to 5 One more or less Shapes with 4 sides Time  <a href="#">VIEW</a>		
Spring term	<b>Alive in 5!</b> Introducing zero Comparing numbers to 5 Composition of 4 & 5 Compare mass (2) Compare capacity (2)  <a href="#">VIEW</a>			<b>Growing 6, 7, 8</b> 6, 7 & 8 Combining two amounts Making pairs Length & height Time (2)  <a href="#">VIEW</a>			<b>Building 9 &amp; 10</b> Counting to 9 & 10 Comparing numbers to 10 Bonds to 10 3-D shapes Spatial awareness Patterns  <a href="#">VIEW</a>			Consolidation		
Summer term	<b>To 20 and beyond</b> Build numbers beyond 10 Count patterns beyond 10 Spatial reasoning 1 Match, rotate, manipulate  <a href="#">VIEW</a>			<b>First, then, now</b> Adding more Taking away Spatial reasoning 2 Compose and decompose  <a href="#">VIEW</a>			<b>Find my pattern</b> Doubling Sharing & grouping Even & odd Spatial reasoning 3 Visualise and build  <a href="#">VIEW</a>			<b>On the move</b> Deepening understanding Patterns & relationships Spatial mapping (4) Mapping  <a href="#">VIEW</a>		



# Autumn Term Overview

Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<p><b>Getting to Know You</b></p> <p>Opportunities for settling in, introducing the areas of provision and getting to know the children.</p> <p>Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.</p>			<b>Phase</b>	Just Like Me!			It's Me 1 2 3!			Light and Dark		
			<b>Number</b>	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
			<b>Measure, Shape and Spatial Thinking</b>	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		





## Spring Term Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing Zero Comparing Numbers to 5 Composition of 4 & 5			6, 7 & 8 Making Pairs Combining 2 Groups			9 & 10 Comparing Numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-Shape Pattern (2)		






## Summer Term Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even and Odd			Deepening Understanding Patterns and Relationships		
Spatial Reasoning	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		



Autumn 1:

Week	Indoor	Outdoor
Getting to know you	Baseline + continuous provision	Continuous provision (sand/water/mud kitchen)
Getting to know you	Baseline + continuous provision	Continuous provision (sand/water/mud kitchen)
Getting to know you	Baseline + continuous provision	Continuous provision (sand/water/mud kitchen)
Just Like Me – Match and Sort	<ul style="list-style-type: none"> <li>Collection of matching objects (socks, Noah’s Ark, wellie boots etc.) Muddle the pairs up and ask children to match the pairs.</li> <li>Loose parts – draw around a selection of lids on paper. Can the children match the lid to the drawing on the paper?</li> <li>Draw around Numicon, can they match the shape to the drawing?</li> <li>Home corner – sort the objects: sort the plates/cups/bowls, sort by colour</li> <li>Loose parts and sorting in different ways</li> </ul>	 <p><b>Outside</b></p> <p>Give each child a different compare bear. Have matching compare bears placed around the outside area. Ask the children to find a bear that matches theirs. How do they know it matches? Are their bears big or small?</p> <ul style="list-style-type: none"> <li>Sort socks into pairs outside and then peg onto a washing line.</li> </ul>
Just Like Me – Making Comparisons	<ul style="list-style-type: none"> <li>Create homes for different toys. What shape and size will they need to be? Which home for the giraffe/mouse? Can we work out each one?</li> <li>Show the children a mystery box (could be tall and thin or large etc.) What might fit in? Will you fit in there? Why not?</li> <li>Pack a picnic basket with different sized cutlery/plates/cups etc. take them out together and lay them all out. Which would be best for daddy bear? Why?</li> <li>Baking cupcakes using balance buckets -1 egg balanced with flour, then butter, then sugar (see scheme)</li> <li>Balance buckets and playdough</li> </ul>	<div data-bbox="1368 842 1816 1054" style="border: 1px solid black; padding: 5px;"> <p>Set up an area where the children can dig and provide large and small spades and garden trowels. You can also provide different sized containers for the children to fill and empty. Which containers are the easiest to carry? Wheelbarrows</p> </div> <div data-bbox="1845 847 2168 1046" style="border: 1px solid black; padding: 5px;"> <p><b>Outside</b></p> <p>Build a tower using large outdoor blocks, cushions or crates. Challenge the children to make a shorter tower, a taller tower. How many crates or blocks did they use? What is the tallest/shortest tower they can build?</p>  </div> <div data-bbox="1368 1078 1827 1342" style="border: 1px solid black; padding: 5px;"> <p><b>Sand and Water</b></p> <p>Provide equipment in 2 distinct sizes. For example, a big bucket and a little bucket, a tall jug and a short jug. Encourage the children to compare the objects and to explore how many scoops each will hold. They could also count how many large scoops and how many small scoops a container will hold.</p>  </div>
Just Like Me - Exploring Pattern	<ul style="list-style-type: none"> <li>Word and sound patterns</li> <li>ABAB repeated patterns – linked to children’s interests</li> </ul>	<ul style="list-style-type: none"> <li>Use natural objects to build towers (leaf, twig, leaf twig/stick, stone, stick, stone etc.)</li> </ul>



	<ul style="list-style-type: none"> <li>• Make patterns using coloured blocks, can the children build the towers following the patterns?</li> <li>• Snack – cut the fruit into pieces and make patterns with the fruit</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Large construction – building towers and saying patterns out loud.</li> </ul>
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**Autumn 2:**

Week	Indoor	Outdoor
<b>It's me, 1,2,3! – representing 1,2,3 and comparing 1,2,3 composition of 1,2,3</b>	<ul style="list-style-type: none"> <li>• Prepare dots on plates which have 1,2,3 on them. Hold up the plates, how many dots? Then add the correct number of objects to each plate.</li> <li>• Create own collections to show 1,2,3 and have a temporary display</li> <li>• Have sets containing 1/2/3, compare the sets – this one has more, this one has less</li> <li>• Have labelled pots with 1,2,3 –children fill the pots with the correct number of objects</li> </ul>	<ul style="list-style-type: none"> <li>• Mud kitchen/sand play – recipes with 1,2 or 3 cups</li> <li>• Have PE equipment and clipboards to create own games scoring 1,2 or 3 points</li> <li>• Have 3 quoits and a large hoop. Child throws all 3. How many landed in the hoop, how many out?</li> </ul>
<b>It's me, 1,2,3! – circles and triangles</b>	<ul style="list-style-type: none"> <li>• Show a selection of circles and triangles, can they sort them? What is the same? What is different?</li> <li>• Look at pictures made from circles and triangles, count the triangles, count the circles</li> <li>• Printing with flat shapes to recreate work by Kandinsky</li> </ul>	<ul style="list-style-type: none"> <li>• Use sticks or ropes to make large shapes outside</li> <li>• Shape hunt around the school grounds</li> </ul>
<b>It's me, 1,2,3! – positional language</b>	<ul style="list-style-type: none"> <li>• Focus on stories linked to positional language (Bear Hunt/3 Billy Goats Gruff), act out the stories with props</li> <li>• Tell story journeys and build these with the children (start of map work too)</li> <li>• Small world farms – where should I put the horse? On the barn or in the barn etc.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Make bridges and use the tunnels and castle outside – can you go over/under/through?</li> <li>• Large scale construction of journeys/towns</li> <li>• Obstacle courses</li> <li>• Hiding objects and giving directions to find them</li> </ul>
<b>Light and Dark – 4 and 5</b>	<ul style="list-style-type: none"> <li>• Introduce a 5 frame. Place objects 1-5 and count carefully, one square for each object</li> <li>• Representing 4 and then 5 in different ways (link back to 1,2,3)</li> <li>• Sort animals 2 legs and 4 legs</li> <li>• Birthday cake/cards – 4 and 5, who is 4? Who is 5? Role play parties using 4 and 5</li> <li>• Number rhymes – visuals and opportunities to practise</li> </ul>	<ul style="list-style-type: none"> <li>• Items on a clothes line, counting up to 5 (could be done in role play area)</li> <li>• Parking bays outside using 2,3 and 4 wheeled toys</li> <li>• Number hunt</li> <li>• Hide bean bags under buckets, careful counting when bucket is lifted</li> </ul>
<b>Light and Dark – one more and one less</b>	<ul style="list-style-type: none"> <li>• 5 current buns in a bakers shop singing and role play, show taking 1 away, we have 1 less each time</li> <li>• Use 5 frames – I have 3 conkers on my 5 frame, what is one more? 1 less?</li> </ul>	<ul style="list-style-type: none"> <li>• Create a 'bus' with 5 chairs. Invite some children on, how many spaces do we have left? I have 4 people, what is 1 more? 1 person gets off, what is one less?</li> </ul>





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	<ul style="list-style-type: none"><li>• Number of the day – 1 more and 1 less (link to number sense)</li><li>• Construction – build stair cases to 5 with cubes look at how each time it gets bigger (or smaller if going down the stairs)</li></ul>	<ul style="list-style-type: none"><li>• Washing lines, pegging different representations in order (what can you tell me about the number 2? Etc.)</li></ul>
<b>Light and Dark – shapes with 4 sides</b>	<ul style="list-style-type: none"><li>• Sort and compare squares and triangles</li><li>• Make pictures of buildings using squares and rectangles</li><li>• Square and rectangle lego prints</li><li>• Using 4 cubes, can we build a square? A rectangle?</li><li>• Make a junk model town. Add on windows and doors using rectangles and squares. Number houses 1-5</li></ul>	<ul style="list-style-type: none"><li>• Shape hunt</li><li>• Rubbings of brick work – squares and rectangles</li></ul>
<b>Light and Dark – time</b>	<ul style="list-style-type: none"><li>• Share stories (Day Monkey/Night Monkey – Julia Donaldson)</li><li>• Talk about daily routines – I go to bed at night etc.</li><li>• Use first and then boards and look at visual timetable</li><li>• Sequencing instructions (baking?)</li><li>• Home corner – add on birthdays of everyone in the class</li></ul>	<ul style="list-style-type: none"><li>• Using sand timers, how many fish can I fish out of the water in 1 minute</li><li>• What can I do in 1 minute?</li><li>• Obstacle course – how long does it take me?</li></ul>