



Burnham-on-Crouch Primary School

EYFS Long Term Maths Planning



ELG:

Number	Numerical Patterns
- 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.	- 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

Development Matters:

	Mathematics
Birth to 3	- Combine objects like stacking blocks and cups. Put objects inside others and take them out again. - Take part in finger rhymes with numbers. - React to changes of amount in a group of up to three items. - Compare amounts, saying 'lots', 'more' or 'same'. - 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.' - Climb and squeezing selves into different types of spaces. - Build with a range of resources. - Complete inset puzzles. - Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. - Notice patterns and arrange things in patterns.
3 to 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 events, real or fictional, using words such as 'first', 'then...'
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.



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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



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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)	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	• Dot cards • Find the number – cards with this number/ picture of objects to represent this number and others taught – find this number. • Add to a 5/10 frame and discuss.(10 frame could be crate, egg box etc) • Counting objects/ actions/ sounds • Find the number • Add to a number track • Create towers to represent the number and all numbers that come before it • Numicon and objects • Fishing games • 1 more/ less • Sharing (odd and even) • Allow children time to compare work and share ideas. • Teach different strategies • Use real life objects where possible
2 input	Look at number – find the Numicon tiles Count objects to represent the number, build towers, bricks, lego.	
3 input	5/10 frame – make the number – talk about how it could be made but still the same amount	
4 full lesson (application)	Exploration of the number in different representations Sort images that represent the number from images that represent other numbers	



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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:



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	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	Getting to know you		Match, sort and compare FREE TRIAL VIEW	Talk about measure and patterns VIEW	It's me 1, 2, 3 VIEW			Circles and triangles VIEW		1, 2, 3, 4, 5 VIEW		Shapes with 4 sides VIEW
Spring term	Alive in 5 VIEW	Mass and capacity VIEW	Growing 6, 7, 8 VIEW	Length, height and time VIEW	Building 9 and 10 VIEW	Explore 3-D shapes VIEW						
Summer term	To 20 and beyond VIEW	How many now? VIEW	Manipulate, compose and decompose VIEW	Sharing and grouping VIEW	Visualise, build and map VIEW	Make connections VIEW	Consolidation					



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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	- Collection of matching objects (socks, Noah's Ark, wellie boots etc.) Muddle the pairs up and ask children to match the pairs. - Loose parts – draw around a selection of lids on paper. Can the children match the lid to the drawing on the paper? - Draw around Numicon, can they match the shape to the drawing? - Home corner – sort the objects: sort the plates/cups/bowls, sort by colour - Loose parts and sorting in different ways	 Outside  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? Sort socks into pairs outside and then peg onto a washing line.



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Just Like Me – Making Comparisons	• 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? • 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? • 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? • Baking cupcakes using balance buckets -1 egg balanced with flour, then butter, then sugar (see scheme) • Balance buckets and playdough	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 Outside 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?  Sand and Water 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. 
Just Like Me - Exploring Pattern	• Word and sound patterns • ABAB repeated patterns – linked to children’s interests • Make patterns using coloured blocks, can the children build the towers following the patterns? • Snack – cut the fruit into pieces and make patterns with the fruit	• Use natural objects to build towers (leaf, twig, leaf twig/stick, stone, stick, stone etc.) • Large construction – building towers and saying patterns out loud.

Autumn 2:

Week	Indoor	Outdoor
It’s me, 1,2,3! – representing 1,2,3 and comparing 1,2,3 composition of 1,2,3	• 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. • Create own collections to show 1,2,3 and have a temporary display • Have sets containing 1/2/3, compare the sets – this one has more, this one has less	• Mud kitchen/sand play – recipes with 1,2 or 3 cups • Have PE equipment and clipboards to create own games scoring 1,2 or 3 points • Have 3 beanbags and a large hoop. Child throws all 3. How many landed in the hoop, how many out?



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	Have labelled pots with 1,2,3 –children fill the pots with the correct number of objects	
It's me, 1,2,3! – circles and triangles	- Show a selection of circles and triangles, can they sort them? What is the same? What is different? - Look at pictures made from circles and triangles, count the triangles, count the circles - Printing with flat shapes to recreate work by Kandinsky	- Use sticks or ropes to make large shapes outside - Shape hunt around the school grounds
It's me, 1,2,3! – positional language	- Focus on stories linked to positional language (Bear Hunt/3 Billy Goats Gruff), act out the stories with props - Tell story journeys and build these with the children (start of map work too) - Small world farms – where should I put the horse? On the barn or in the barn etc.	- Make bridges and use the tunnels and castle outside – can you go over/under/through? - Large scale construction of journeys/towns - Obstacle courses - Hiding objects and giving directions to find them
Light and Dark – 4 and 5	- Introduce a 5 frame. Place objects 1-5 and count carefully, one square for each object - Representing 4 and then 5 in different ways (link back to 1,2,3) - Sort animals 2 legs and 4 legs - Birthday cake/cards – 4 and 5, who is 4? Who is 5? Role play parties using 4 and 5 - Number rhymes – visuals and opportunities to practise	- Items on a clothes line, counting up to 5 (could be done in role play area) - Parking bays outside using 2,3 and 4 wheeled toys - Number hunt - Hide bean bags under buckets, careful counting when bucket is lifted
Light and Dark – one more and one less	5 current buns in a bakers shop singing and role play, show taking 1 away, we have 1 less each time - Use 5 frames – I have 3 conkers on my 5 frame, what is one more? 1 less? - Number of the day – 1 more and 1 less (link to number sense) - Construction – build stair cases to 5 with cubes look at how each time it gets bigger (or smaller if going down the stairs)	- 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? - Washing lines, pegging different representations in order (what can you tell me about the number 2? Etc.)
Light and Dark – shapes with 4 sides	- Sort and compare squares and triangles - Make pictures of buildings using squares and rectangles - Square and rectangle lego prints - Using 4 cubes, can we build a square? A rectangle? - Make a junk model town. Add on windows and doors using rectangles and squares. Number houses 1-5	- Shape hunt - Rubbings of brick work – squares and rectangles
Light and Dark – time	- Share stories (Day Monkey/Night Monkey – Julia Donaldson) - Talk about daily routines – I go to bed at night etc. - Use first and then boards and look at visual timetable - Sequencing instructions (baking?)	- Using sand timers, how many fish can I fish out of the water in 1 minute - What can I do in 1 minute? - Obstacle course – how long does it take me?



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- Home corner – add on birthdays of everyone in the class

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Spring term	Alive in 5 VIEW	Mass and capacity VIEW	Growing 6, 7, 8 VIEW	Length, height and time VIEW	Building 9 and 10 VIEW	Explore 3-D shapes VIEW						

Spring 1

Week	Indoor	Outdoor
Week 1: Alive in 5	• Key Vocab: zero, count, find, subitise, show, 5 frame, numbers 1-5 • Read the book 'None the number' by Oliver Jeffers, discuss and focus on 'zero' and what none can be. • Together sit in a circle with a five frame and counting objects. Together count and place five objects onto the frame. Children are then given a 0-3 dice to roll. Children then count out that number of objects and remove them from their 5 frame. Repeat until they have given away all their objects. The first to be left with zero is the winner <i>Where can you find/see? Where can you see zero? How many different ways can you find?</i> • Working with the children in small groups show children different arrangements of dot plates showing 0-5. Encourage children to subitise these rather than counting these, if children are not confident then encourage them to touch count them to support their counting and	• Refer to '5 Little Monkeys Jumping on the Bed'. Encourage children to take on the role of the 5 monkeys, alongside five frames. Represent each verse with counters on a 5 frame, displaying the numerals alongside it. Ask them to predict how many monkeys will be left as they fall off the bed. <i>How can we show this on our 5 frame? Which numeral should we use?</i> • Provide equipment for throwing and rolling games such as skittles, beanbags and buckets. Encourage the children to notice when they knock over 0 skittles or when 0 beanbags land inside the bucket. How can they record their score? • Number hunt



	recognition of amounts. Ask children to show you the correct number of fingers or finding the numeral on a digit card. - In small groups together look at picture cards with different representations of 0-5 including the numerals to 5. Can children sort them into 'zero' and 'not zero'? Prompt children to sort the cards and place them in the correct hoop. <i>Can we see if there are more than two cards that match? How can we check?</i> - Sort and match numerals/objects to labelled pots, 0-5.	
Week 2: Alive in 5	Key Vocab: one more, adding, larger, more, forwards, one less, one, backwards, down, smaller, decrease, 0-5, number, composition, parts, see, whole, altogether, different - Read the book 'The Ugly Five' by Julia Donaldson - Five frames, <i>'I have 4 pom poms, what is one more and one less'</i>? - Subitising games 0 - 5 (dot cards), <i>can you represent the given number on your fingers?</i> - As a class count from 0 – 5 and create a number line together as you do this. Keep this for reference to help the children find one more than a number. Recap that the 1 more pattern means moving up/forward along the number line to find the next number, the number that is one more than the next number. - Using the towers of cubes ask the children to find one more than 1, 2, 3, 4, 0. Can anyone do this without the cubes? Make sure children remember to add a cube each time. <i>How many are there? How many are there now? What is 1 more than? What is the number after?</i> - Numberblocks – 'The whole of me' - Numberblocks – 'Five' - Numberblocks – 'Numberblocks express'	- Have a bag of numerals from 0 to 5. As you pull out a numeral combine it with a task for the children to do. For example, if you pull out a 2, the children need to do 2 star jumps or run to a hoop twice etc. - Working with the children look through the dot plates and reinforce the use of not counting the amounts and trying to subitise these. Ask children to find the dot plate that is one less than X or one less than the dot plate you currently have. Continue playing this where children are finding the dot plate that is one less than either the number you have given or the dot plate you have. - Model throwing 5 double sided counters/bean bags, look as a group – how many are red and how many are yellow? Verbally complete the sentence stem 'there are ___ red counters and ___ yellow counters and ___ counters altogether'. Next give children five double-sided counters each and ask them to shake them and drop them on the floor. Support them to follow the sentence stem to explain what they can see. Can they record as a number sentences? - Have 5 bean bags and a large hoop. Child throws all 5 and notice how many landed in the hoop, how many outside the hoop? Can they record as a number sentence?



Week 3: Mass and capacity	• Key Vocab: compare, mass, capacity, heavy, light, weigh, balance, heaviest, lightest, more, less, scales, heavier, lighter, size, height, width, estimate, record, held, most, many, full, empty, half full • Read 'How much does a ladybird weigh?' By Alison Limentani • Use balance scales to predict the weight/mass of 2 objects, <i>which is heavier? Which is lighter?</i> • Try to balance the scales, add cubes to one side of the scale and try and balance them with an object (e.g. glue stick, scissors). <i>Will you need more or fewer cubes to make a different object balance the scale? Which object is heavier/lighter?</i>	• Place a range of containers in the sand tray/water area. Allow children to play with the containers and explore making them full, empty and half full. Talk about what containers hold the most and the least. Challenge: how many spoons of sand/mini cups of water can they fill the containers with to make them full? • Compare different containers and discuss what the children notice. Are they all the same size/height/width? How are they going to estimate? Record estimation and fill each container with pebbles/shells to record the number. Do they all hold the same amount? If not, why not? Which holds the most/least?
Week 4: Growing 6, 7, 8	• Key Vocab: ten frame, count number, add, number names, numerals, more/less/than, number line, sides, how many, altogether, count, counting, number sentence, plus, equals, make, total, different, same, share • Read 'Six Dinner Sid' by Inga Moore/'Kipper's Toy Box' by Mick Inkpen/'Quack and Count' by Keith Baker • Use counters and tens frames to explore one more and one less of a given number • Use cubes to represent 6, 7 and 8. How many ways can they build a given number (6, 7 or 8) use a part, whole template. • Numberblocks: 'Six' • Numberblocks: 'Seven' • Numberblocks: 'Eight'	• Draw a chalk outline of a ladybird on the ground. The ladybird has lost its spots. Small groups to count 6 stones and place them on the ladybird. Count using 1-1 correspondence. Explore different ways of making 6. Remove the stones and model placing 3 stones on each side of the ladybird. I have 1,2,3 on this side, and 1,2,3 on the other side. How many are there altogether? Model counting the total using 1-1 correspondence. Demonstrate writing a number sentence on the ground ($3+3=6$). Are there other ways of making 6? • In small groups play skittles with 7 skittles, can they count how many there are altogether? How many did they knock over? How many are left standing? Can they record as a number sentence? • Have 8 bean bags and a large hoop. Child throws all 8 and notice how many landed in the hoop, how many outside the hoop? Can they record as a number sentence? What do they notice?
Week 5: Growing 6, 7, 8	• Key Vocab: pair, combine, match, same and different, matching, pattern, many, equal, notice, item, half,	• Children get into pairs ready for a game or line up in pairs for a Spring walk. Do they notice any pairs on their walk?



	halves, exact, altogether, total, add, plus, amount, split, part, whole • Read 'The smartest giant in town' by Julia Donaldson and 'Simons Sock' by Sue Hendra & Paul Linnet • Sort and match pairs of the giant's socks, explain a pair of socks mean two socks, peg to the washing line • Match, Same or Pair? Game (Bag or box full of pairs, e.g. 2 apples, 2 duplo blocks and non-matching items) • Modelling, make insects/mini-beasts, e.g. how many pairs of legs? • Use a part-part-whole model (hoops) to split a number, (model and then split numbers using 3 hoops before writing number sentences). • Numberblocks: 'Double Trouble' • Numberblocks: 'Odds and Evens' • Numberblocks: 'Odd Side Story' • Numberblocks: 'The Two Tree' • Numberblocks: 'The Lair of Shares' • Numberblocks: 'Now we are six to ten'	E.g. They could take it in turns to mirror each other's actions. • Provide collections of items that can be arranged into pairs. Encourage the children to notice which quantities make even pairs and which have an odd one left over. Do they notice any patterns? • Play pairs with matching cards (numerals and representations) • Encourage children to match pairs of animals to recreate Noah's Ark. Can they construct their own arks and fit all the pairs of animals inside?
Week 6: Length, height & time	• Key Vocab: length, height, time, measure, estimate, number, long, longer, longest, short, shorter, shortest, small, big, how many, bigger, biggest, smaller, smallest, size, order, clock, time, large, larger, largest, balance, compare, time • Read 'Titch' by Pat Hutchins • Ordering snakes, who can find the longest? Shortest? Can you order them in size? Can you measure the length of the snake with counters? How can you record this? Can you measure anything else? • Make paper footprints and order them in size • Construction, can you build a tower or a road, the same height, taller, longer or shorter? How tall is the tallest tower they can build?	• Order objects outside, what's longer? Taller? Smaller? How can you tell? • Can you order yourselves by height? • Explore the outdoor environment with tapes to measure the length and height of different objects and equipment. What do they notice?



- Build beds or chairs for Daddy Bear, Mummy Bear and Baby Bear

Spring 2

Week 7: Length, height & time	• Key Vocab: How many, size, order, 8 o'clock, Midday, 3 o'clock, time, hands, timer, clock, biggest, smallest, shortest, longest, score, minutes, hours, o'clock • Read 'The Bad-Tempered Ladybird' by Eric Carle and 'Mr Wolf's Week' by Colin Hawkes • Days of the week song and ordering the days of the week (emphasise 5 week days and 2 days at the weekend) • Order/sequence their day • Play with clocks, can they change it to the time that they go to bed, wake up, go to school etc. • Numberblocks: 'About Time'	• Play 'What's the time Mr Wolf?' • Use a range of sand timers (e.g. 5 mins, 1 min, 30 secs) to complete different activities (e.g. how many laps can you do of the outside area?) • Provide seeds, soil and plant pots/cress. Each child is to plant a seed and look after them as they grow. Look for any changes, what do they notice? • Outdoors circuit activity. Timer and small groups need to complete activities at each station before moving on. How many can they do?
Week 8: Building 9 and 10	• Key Vocab: compare, more, less, add, equals, total, missing, number sentence, add, plus, same, different • Read 'How do Dinosaurs Count to 10?' by Yolen & Teague and 'Ten black dots' by Donald Crews • Sort objects into 9 and 10. Ask the children to predict how many there are, can they place them on the tens frame. Explore tens frames with 9 circles and 10 circles and match with representations of the number. • How many ways can you make 9 & 10 using the numicon? • How many ways can you make 10 using the numberblocks? (In 2 groups) • Make a class book with double page spreads for each number (1 to 10). All children to create drawings, write the numerals/collect photos. • Numberblocks: 'Nine' • Numberblocks: 'Ten' • Numberblocks: 'Five and friends'	• Number hunt outside. Can you order the numbers from 0 – 10? (Hide a card, which card is missing?) • Collect items in the outdoors environment, throw onto a tuff tray and discuss what they notice (number patterns e.g. 3 lots of 3) • Take turns to roll a dice and add counters to a tens frame, the first one to 10 with a full frame wins!



Week 9: Building 9 and 10	• Key Vocab: compare, more, less, add, equals, total, missing, number sentence, add, plus, same, different, guess, number bonds, altogether • Read 'Number bond friends' by Jessie Wilson • Use jaffa cakes to model number bonds to 10 on a tens frame, sing number bonds song to 'Row, Row your boat', <i>'9 and 1 are number bonds, 8 and 2 are friends, 7 and 3, 6 and 4 and 5 and 5 are twins'</i> • Choose a numicon tile from a bag (1-10) and discuss how many more are needed to make 10 to connect to be the same shape as the 10 numicon. • Numberblocks: 'Ten Again' • Numberblocks: 'Blast Off'	• Adult to hold up a number card between 0 – 10. Children have to find the number of natural materials that go with that number to make a number bond to 10 (e.g., hold up 6, they will find 4 items) • Ten frame memory game, cards are placed upside down. Children take turns to turn over 2 cards and when they find a pair that make 10, they collect the cards. Player who collects the most pairs wins. • 10 Hunt, 10 items are hidden outside and small groups work together to find the items and place on the tens frame. Children need to use the frame to help them see how many they have found and how many are still hiding.
Week 10: Building 9 and 10	• Key Vocab: compare, more, less, add, equals, total, missing, number sentence, add, plus, same, different, guess, number bonds, altogether • Read 'Number bond friends' by Jessie Wilson • Play 'Guess my number', say statements such as 'this number goes with 9 to make 10', revisit 10 can be made up of different parts, including 3 parts. Use a part-part-whole model to show this. • Sing '10 Green bottles' and use fingers to count down • Doubles to 10, ladybird spots • Use a mirror (to reinforce the idea of doubles) and record number sentences, doubles to 10 • Numberblocks: 'Double Trouble' • Numberblocks: 'Odds and Evens' • Numberblocks: 'Odd Side Story' • Numberblocks: 'The Two Tree'	• Number bonds to 10, match the ladybird • Chalk part-part-whole models, partition 10 in as many ways as possible using natural resources, can you record in a number sentence? Can you partition 3 ways? • 10 Hunt, 10 items are hidden outside and small groups work together to find the items and place on the tens frame. Children need to use the frame to help them see how many they have found and how many are still hiding.
Week 11: Explore 3D shapes	• Key Vocab: shape, 2D, repeating, pattern, 3D, circles, square, together, join, triangle, semi-circle, same, different, fold, angle, turn, solid, flat, face, round, straight, cube, cuboid, cylinder, prism, cone	• Shape detectives in the outdoors environment, what can they find and how can they record their findings? • Make a 3D sculpture using found objects & shapes



	• Read 'Mouse Shapes' by Ellen Stoll Walsh & 'We are the shapes' by Kevin Jenner • Feely bag of 3D shapes, explore and name 3D shapes (cube, cuboid, sphere, triangular based prism, cylinder, cone) and explore concrete real objects, discuss what they notice? What shapes can they see on the faces? • Shape detectives, look around the classroom environment for 3D shapes and record their findings • Repeating patterns, what could we expect to see next? (AB, ABB, ABBC etc) • Numberblocks: 'Flatland'	
Week 12: Explore 3D shapes	• Key Vocab: shape, 2D, repeating, pattern, 3D, circles, square, together, join, triangle, semi-circle, same, different, fold, angle, turn, solid, flat, face, round, straight, cube, cuboid, cylinder, prism, cone • Sort real resources (e.g. tubes, cereal box etc) into 3D shapes • 3D shape model making challenge cards • Sort 2D and 3D shapes • Complex shape patterns • Numberblocks: 'Now in 3D' • Consolidation	• Use construction equipment to build 3D shapes • Matchsticks and jelly tots, what 3D shapes can you build? • Painting 2D shapes with 3D blocks • Repeating patterns with natural resources

Summer term	To 20 and beyond VIEW	How many now? VIEW	Manipulate, compose and decompose VIEW	Sharing and grouping VIEW	Visualise, build and map VIEW	Make connections VIEW	Consolidation
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Number sense for Summer Term 11-20:



Summer 1

Week	Indoor	Outdoor
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Burnham-on-Crouch Primary School EYFS Long Term Maths Planning



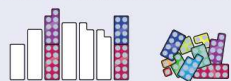
Week 1: To 20 and beyond

Input:

Share a counting book, focus on counting to 20. Address misconceptions with teens numbers. Show number cards to 20 (pics and numerals), model careful counting, order numbers and match amounts to numeral.

Number sense: 11 – introduce tens and ones. Focus on one more and one less.

Provide blank outlines of a cityscape for children to fill using number shapes. Prompt them to see which number has filled each tower. Is there more than one way to do this?



Challenge children to design their own cityscape for a partner to fill with number shapes.

Provide a set of picture cards and matching numeral cards for numbers up to 20

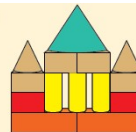
Give one card to each child and ask them to find a partner with the matching number. Prompt them to then find other children who have the same number shown in different ways.



17 16 20 14

What number card do you have? How do you know?

After reading stories such as *Jack the Builder* by Stuart J. Murphy, encourage children to build their own cityscapes using different numbers of blocks. Encourage children to count as they build.

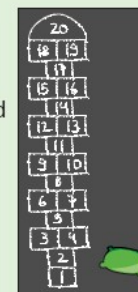


Prompt them to tell a partner what they have built and how many blocks they have used.

Play hopscotch to 20

Children throw a beanbag towards the hopscotch.

Can they identify the number their beanbag landed on? Can they count on as they move up the hopscotch and then count back as they return?



Photograph for Evidence Me (recorded task)

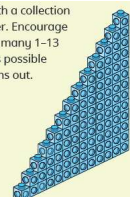
Week 2: To 20 and beyond

Input: lots of opportunities for counting to 20 and beyond. Use splat squares and Busythings games to encourage counting beyond 20.

Number sense: 12 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.

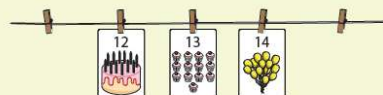
- Tens frames and objects
- Number padlocks
- Use of IWB
- Number lines

Provide children with a collection of cubes and a timer. Encourage children to build as many 1-13 staircase models as possible before the timer runs out.



Prompt children to count out loud and encourage them to notice the pattern of numbers.

Provide children with a set of birthday cards where the cardinal value is represented in pictures on the front.

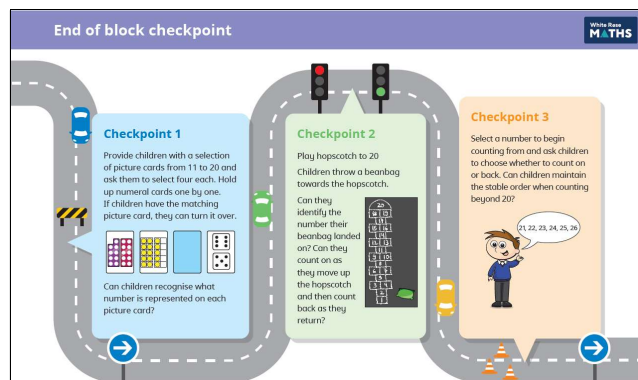


Play 'Which one is missing?' with a birthday card number line. Shuffle the cards and prompt children to order them to find the missing card.

Provide children with a large hundred square chalked on the ground outside. Cover some of the numbers up and ask children to identify the missing numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

How do they know that number is the missing number? Can they count on from the missing number?



Week 3 – How Many Now?

Input:

Using ‘first, then, now’ number stories helps children to find the answer to the question “How many now?” by providing meaningful contexts

Focus on taking away

Number sense: 13 – introduce tens and ones. Begin to spot patterns – 11, 12 and 13 all start with 1 ten.

Recorded task: Evil Pea Subtraction:



Potatoes in soil – use the potatoes to solve the number sentences (addition and subtraction)

Numbers and padlocks – 1-20.

- Tap a shape
- Build a shape picture
- Numicon tile pictures
- Peg boards and elastic bands

Adult led:

After reading stories such as *Mr Gumpy's Outing* by John Burningham, encourage children to play the characters from the story. Have some children in the boat and ask the other children to shut their eyes. Secretly tap some of these, who join the boat without the others seeing. Then ask everyone to open their eyes. How many children are in the boat now? How many were added?



In the context of the song *Ten Green Bottles*, tell children a ‘first, then, now’ story where the first part is missing. For example, “We don’t know how many bottles were on the wall, but then 3 more were added and now there are 10 altogether.”



Encourage children to use a ten frame and counters to work out how many bottles there were at the start.

Week 4 – manipulate, compose and decompose

Input: naming 2d shapes, manipulate 2d shapes to create pictures.

Model making a pirate ship using shapes, I have used 2 big triangles and 3 small ones. Can you see I have used 2 small semi circles to make the sun? etc.

Provide children with a range of large outdoor construction equipment. Discuss how these could be used to develop an obstacle course for their peers.

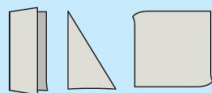


Ask children to construct an obstacle course. As they create it, encourage them to explain to a partner how the obstacles are arranged and talk to them about how to move around the course.



Number sense: 14 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.

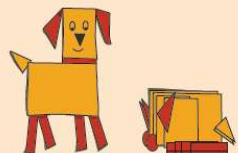
Provide children with pre-cut paper shapes that they can fold to make new shapes. In pairs, one child folds a shape and their partner has to predict what the new shape will be after folding.



Can children correctly predict what new shapes will be made once the paper is folded?

Recorded task:

Provide children with a range of pre-cut gummed shapes or felt shapes to make their own shape pictures with. Can they talk about why they are choosing each shape and what it is going to represent on their shape picture?



Week 5 – manipulate, compose and decompose

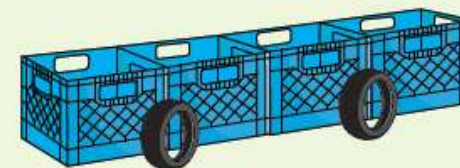
Share the text: Boxitects by Kim Smith.

Sit children in a circle around two hoops and provide a range of 3-D shapes, including real-life objects. Pick a child to create a rule and then sort the shapes using this rule. For example, the rule could be all the shapes that have a rectangular face go in one hoop and those that don't go in the other.



Recorded task: using a range of 3d shapes (can be real objects or 3d shapes) children build a model and explain what they have made and how. What 2d shape faces can they see?

After reading books such as *Mr Gumpy's Motor Car* by John Burningham, encourage children to make arrangements outside, such as a car, using a variety of resources.



Prompt them to talk about which shapes to select and where to place them in relation to the other shapes.



Week 6 –Sharing and Grouping Share the text: The Squirrels Who Squabbled. Talk about the story and how we should share. Model handing out some objects, give lots to some people, a few to others, none to another etc. Ask is that fair? Have I shared? Model sharing fairly using hoops. Talk about odd and even numbers. Number sense: 16 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.	• Sharing treasure • Sharing snack at snack time • Odd and even numbers – can we share an odd amount equally? • Small world situations – is it fair? Have we shared out the objects fairly? Recorded task: Practical sharing (share 6 gems between 2 treasure chests etc.) Photo of the children sharing.	Read stories such as <i>The Squirrels Who Squabbled</i> by Rachel Bright. Outside, set up two tyres with one character in each. Provide children with a collection of natural materials, such as acorns, conkers or pinecones. Encourage them to explore whether these items can be shared equally between the two characters. Prompt children to explain their reasoning.  Provide teddy bears, plates and small quantities of loose parts to represent different food items. Ask children to share out the loose parts fairly so that each teddy gets the same amount.  Are there any items left over? What will happen if another teddy joins the picnic?
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Summer 2

Week	Indoor	Outdoor
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Week 7 –Sharing and Grouping – doubles and halves

Number sense: 17 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.

Ask children to spin a 1 to 5 spinner. Double the number the spinner lands on by building towers or drawing spots on blank dominoes.

What number did you land on? What is the double?

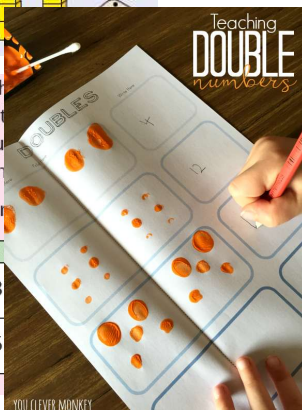


Play a game of double bingo. Provide children with some counters and a numbered grid with numbers 1 to 5 on it. Show them a numeral card such as 4 and ask them which number is doubled to make 4.

They then place their counter on the corresponding number, such as number 4.

To support children, give them cubes to use to work out the double.

B	I	N	G
4	3		
1	5		



Play relay races in small groups, explaining that we need teams of 4 children to play the game. How many teams can we make?

Repeat with different numbers of children needed in each group. How many teams can we make this time?



Provide children with plant pots, soil and seeds for planting. Explain to children that we need to put 3 seeds in each pot. How many pots can be filled?



This could be repeated, by giving children a different number of seeds to be put in each pot. Does the number of pots change?

Week 8 –Sharing and Grouping

Number sense: 18 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.

Recorded task:

Read the story *The Gingerbread Man*. Give children a number of gingerbread biscuits and some raisins to use as buttons and prompt them to place 3 buttons on each gingerbread biscuit.



How many gingerbread biscuits can have buttons? Repeat this with different numbers of buttons – how many biscuits can have buttons this time?

Reorganise resources in the outdoor provision by grouping. Tell children that we need to place the tyres in piles of 3. How many piles can we make? Repeat this for other resources, such as piles of crates, balls in buckets and towers of bricks.

Children could then make their own signs to label the groups.



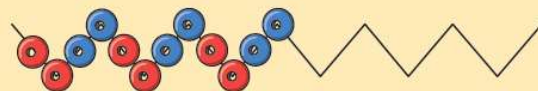


Week 9 – visualise, build and map

Repeating Patterns:

Number sense: 19 – introduce tens and ones. Begin to spot patterns – 11,12 and 13 all start with 1 ten.

Set up a pattern area and provide children with a range of loose parts and images of patterns. Prompt children to pick a pattern and recreate it. Allow them to take a photo to display their pattern in that area for other children to recreate. Can they see the repeat?



Provide varied resources such as shells, pebbles, seed heads and pressed flowers that children can use to make their own more complex patterns.

Encourage children to identify patterns within those individual objects too.



In an open space outside, enact large movement patterns and prompt children to say what the unit of repeat is.



Encourage children to copy and continue these patterns.

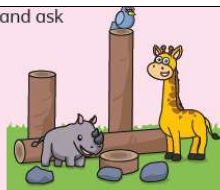


Week 10 – visualise, build and map

Creating and exploring rules and describing

Number sense: 20 – introduce tens and ones. Begin to spot patterns – 11, 12 and 13 all start with 1 ten.

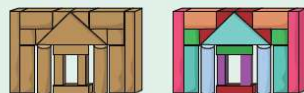
Set up a small-world scene and ask children to describe where objects are positioned and where they are in relation to other things. Encourage them to move around and look at the scene from a different viewpoint.



What do you notice? Does the scene still look the same?

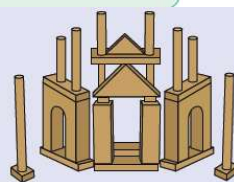
Sing songs such as *Gonna Build a House* with children. In pairs, one child makes their own model of a house and then gives their partner instructions for how to replicate the building. The partner builds a matching model, using the original model to help them.

Encourage children to discuss how they made their models and to look for what is the same and what is different.



Ensure the construction area is well resourced with ample blocks and bricks of varying shapes and sizes. Encourage children to build more complex structures such as castles.

Prompt them to look at their constructions from different positions.



Set up a jewellery workshop with different lengths of string, beads and cotton reels. Encourage children to create their own bracelets and necklaces using their own pattern rules. Prompt children to describe the rule they followed.



To extend this, children could be the customer and request a bracelet or necklace with a given rule. For example, they could ask for an AAB necklace.

Take photographs of the outdoor area from unusual viewpoints. For example, from high up, low down or from under a tree. Encourage children to identify where the photographer was standing when they took the picture.



Prompt them to take their own photographs from different viewpoints.



Set up a performance area or stage outside. Provide children with a range of musical instruments and encourage them to make different sound patterns with them.



Ask the audience to describe what the rule is.

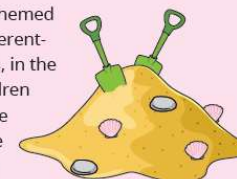
Provide children with a range of items for them to make patterns with. Ask them to identify their rule.



Prompt them to change the context of their pattern by using different items to show the same rule.



Hide a range of beach-themed loose parts, such as different-sized shells and pebbles, in the sand tray. In pairs, children dig up the items and one child uses them to make a pattern. Their partner can copy the pattern and identify the rule. Prompt the partners to then swap roles.





Weeks 11 and 12 – visualise, build and map

Mapping – input:

On the carpet, provide a large piece of paper in the shape of the classroom with the doors and windows already marked on the paper. Show children a range of photographs that show the different areas of the classroom. Explain that we are going to make a map of our classroom using the large piece of paper and the photographs. Encourage children to identify the areas on each of the pictures and discuss where they think they need to be positioned on the paper map.

Number sense: consolidate number bonds to 10

Revisit work on maps and mapping. Ensure children have access to the different maps we have looked at and used in different settings. Children need to be able to talk about maps clearly.

Use the beebots and maps from familiar stories to retell stories, create own and describe routes/maps.

Lots of opportunities to draw own maps and talk about them.

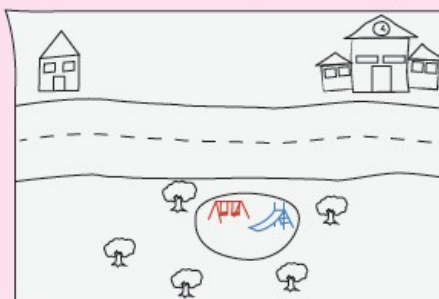
Provide children with a range of maps and large rolls of paper in provision. Encourage them to draw their own maps in the same style as the examples.



Children could bring construction and small-world resources to their map to enhance it and bring it to life.

Begin by explaining your route to school from the car park or the school gates. Ask children what they pass on their way to school. Encourage children to draw a simple, linear map to show their home, their street, the school and some landmarks they pass on the way.

What do they pass first, next and last?



Adult guided:

Provide a simple map of an obstacle course. Encourage children to use the map to build the obstacle course, checking where things need to be in relation to others.



They might also like to design their own obstacle course and draw a map to help them to remember the design.



Read stories with children, such as *Pirates Love Underpants* by Claire Freedman, that show illustrations of treasure maps. Discuss what a treasure map needs to include for others to be able to use it to find the treasure.



Hide treasure in the outdoor area and create a treasure map for children. Encourage them to discuss which area each part of the map is showing and then follow the map to find 'X' marks the spot.



Encourage children to make their own treasure maps for other children to follow.



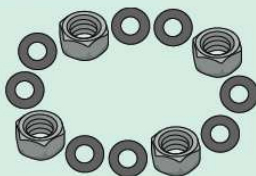
Final Week
Make Connections: problem solving

Number sense: consolidate number bonds to 10

Show children photographs of bridges and prompt them to talk about what they notice. Encourage children to work together to build the longest bridge they can. How will they measure it? What is the strongest bridge they can build? How could they measure the strength of the bridge?



Provide a range of natural materials and loose parts for children to create repeating patterns with. Encourage them to make different patterns which all have the same structure. Can they build a repeating pattern which continues around a circle?



Is there more than one way to describe this pattern?
Where is the starting point?

Ask children to build a staircase pattern using number rods. Can they build it so that it goes up and then down? Can they build it so that it goes down and then up?



Encourage children to compare the different staircase patterns. What do they notice? They could also explore building staircase patterns that go up or down in two or three steps.

Provide children with materials such as tin foil or modelling clay to make boats. How many marbles will their boat hold while staying afloat?

Whose boat will hold the most marbles? Encourage children to adapt their design so that their boat holds more marbles.



Allow children to plan (with adult support if needed) the last day of school. Encourage children to think about fun activities that they enjoy or something that they would like to do, for example, making slime.



Once children have made a plan, ask "What resources do you need to do these tasks? How long will each task take? Do we all need to work together or in small groups?"



In the outdoor area, challenge children to solve problems on a large scale. For example, say "The playground is a crocodile-infested swamp! How can we rescue teddy without putting our feet on the ground?"



Other ideas could be building a shelter to keep everyone dry, choosing a vessel to fill with water, or keeping water in a vessel with holes in it.