

Chacewater School EYFS Maths Long Term Plan



This plan references , WhiteRose, Mastering Number, Chacewater School Calculation Policy and Development Matters. It ensures coverage across the year. It applies to 4x weekly adult-taught sessions and will be reflected in continuous provision opportunities.

We use NCTEM Mastering Number to complement Numberblocks episode to introduce 1-10 numbers and smart slides to represent different ways of visually being able to develop children's depth of understanding of early number. This includes developing the children's ability to subitise and to be able to identify the composition of early number.

Focus on numbers 1-10 important before moving on to numbers beyond this.

Children work in 4 rotational groups, 3 adult led activities across the week and 1 independent. These independent activities are based on previous knowledge, mastering number and number fluency. Continuous provision opportunities are provided for children to access during the whole duration of the week, these include:

- Mastering Number - Linking to the suggestions given on for the mastery number programme.
- Previous learning - for them to then learn and investigate independently (modelling). This is to embed the understanding and to allow us to uncover misconceptions.
- Continuous based on the number of the week, number formation, number facts and number resources and number puzzles.

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 understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

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Long Term Plan:	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS Links to	Number	Number	Number	Number	Number	Number
EYFS Links to	Shape, Space and Measure on Mondays					
Shape Space and Measure Coverage every Monday	Measures and Pattern	Circles and Triangles Squares and 4 sides shapes	Mass and Capacity Length, Height and Shape	Explore 3D shapes	Manipulate, compose and decompose	Visualise, build and map.
Mastering Number focus	Subitising Composition Counting, cardinality and ordinality Subitising	Composition Counting, ordinality and cardinality Composition x 3 weeks Counting, ordinality and cardinality	Subitising Counting, cardinality and ordinality Composition x 3	Counting, ordinality and cardinality Composition x 4 weeks	Counting, ordinality and cardinality Subitising Composition x 3 weeks	Recap composition, counting, and counting patterns.

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Autumn 1	Week 1	Week 2	Week 3	Week 4	Week 5
Focus	Subitising	Counting, ordinality and cardinality	Composition	Subitising	Comparison
Set 1	Subitising within 3	Focus on counting skills	Explore how all numbers are made of 1s Focus on composition of 3 and 4	Subitise objects and sounds	Comparison of sets - 'just by looking' Use the language of comparison: <i>more than</i> and <i>fewer than</i>
Autumn 2	Week 6	Week 7	Week 8	Week 9	Week 10
Focus	Counting, ordinality and cardinality	Comparison	Composition	Composition	Counting, ordinality and cardinality
Set 2	Focus on counting skills Focus on the 'five-ness of 5' using one hand and the die pattern for 5	Comparison of sets - by matching Use the language of comparison: <i>more than</i> , <i>fewer than</i> , <i>an equal number</i>	Explore the concept of 'whole' and 'part'	Focus on the composition of 3, 4 and 5	Practise object counting skills Match numerals to quantities within 10 Verbal counting beyond 20

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Spring 1	Week 11	Week 12	Week 13	Week 14	Week 15
Focus	Subitising	Counting, ordinality and cardinality	Composition	Composition	Composition
Set 3	Subitise within 5 focusing on die patterns Match numerals to quantities within 5	Counting – focus on ordinality and the 'staircase' pattern See that each number is one more than the previous number	Focus on 5	Focus on 6 and 7 as '5 and a bit'	Compare sets and use language of comparison: <i>more than, fewer than, an equal number to</i> Make unequal sets equal
Spring 2	Week 16	Week 17	Week 18	Week 19	Week 20
Focus	Counting, ordinality and cardinality	Comparison	Composition	Composition	Composition
Set 4	Focus on the 'staircase' pattern and ordering numbers	Focus on ordering of numbers to 8 Use language of <i>less than</i>	Focus on 7	Doubles – explore how some numbers can be made with 2 equal parts	Sorting numbers according to attributes - odd and even numbers

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Summer 1	Week 21	Week 22	Week 23	Week 24	Week 25	
Focus	Counting, ordinality and cardinality	Subitising	Composition	Composition	Comparison	
Set 3	Counting – larger sets and things that cannot be seen	Subitising – to 6, including in structured arrangements	Composition – '5 and a bit'	Composition - of 10	Comparison – linked to ordinality Play track games	
Summer 2	Week 26	Review and assess	Review and assess	Review and assess	Review and assess	Review and assess
Set 4	Subitise to 5 Introduce the rekenrek	Automatic recall of bonds to 5	Composition of numbers to 10	Comparison	Number patterns	Counting

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Term 1	Term 2	Term 3
<p>Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • identify when a set can be subitised and when counting is needed • subitise different arrangements, both unstructured and structured, including using the Hungarian number frame • make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills • spot smaller numbers 'hiding' inside larger numbers 	<p>Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals • begin to identify missing parts for numbers within 5 • explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame • focus on equal and unequal groups when comparing numbers 	<p>Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • continue to develop their counting skills, counting larger sets as well as counting actions and sounds • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame • compare quantities and numbers, including sets of objects which have different attributes • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2

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<ul style="list-style-type: none"> • connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers • hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number • develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds • compare sets of objects by matching • begin to develop the language of 'whole' when talking about objects which have parts 	<ul style="list-style-type: none"> • understand that two equal groups can be called a 'double' and connect this to finger patterns • sort odd and even numbers according to their 'shape' • continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern • order numbers and play track games • join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers 	<ul style="list-style-type: none"> • begin to generalise about 'one more than' and 'one less than' numbers within 10 • continue to identify when sets can be subitised and when counting is necessary • develop conceptual subitising skills including when using a rekenrek
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White Rose planning to support Number units (if needed) – Not to be	Getting to know you (first 2 weeks) Early number to 3.		Alive in 5 Moving onto 6,7,8	Building 9 and 10 Sharing and grouping		To 20 and beyond
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<p>taught explicitly.</p>	<p>Teaching to 5 - 1,2,3,4,5</p>					
<p>Declarative Knowledge Facts to be learnt</p>	<p>Place Value</p> <p>Children begin using numbers and counting up to 5. Children begin using numbers and counting up to 10.</p> <p>Comparing number</p> <p>Children compare quantities of identical objects and non-identical objects. Children compare groups of objects and numbers up to 10.</p> <p>Identifying, Representing and Estimating Number</p> <p>Children are introduced to doubling, halving and sharing numbers and objects within numerical patterns. Children learn which numbers are odd and which numbers are even as well as understanding why</p> <p>Number bonds</p> <p>Children find changes within 5. Children combine two groups to find the whole amount. Children are introduced to the part whole model and learning how to use it with numbers up to 10.</p> <p>Mental Calculation</p> <p>Children find one more and one less. Children learn how to add by counting on. Children learn how to take away by counting back.</p>					

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	<p>Measurement</p> <p>Children are introduced to length, height, distance, weight, volume and capacity using numbers, objects and practical exploration.</p> <p>Geometry</p> <p>Children are introduced to 2D shapes and 3D shapes learning their names and recognising them. Children begin making simple patterns then once confident, explore more complex patterns.</p>
ELGs:	<p>ELG Number= <u>Children at the expected level of development will:</u></p> <ul style="list-style-type: none">- 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. <p>ELG Numerical Patterns= <u>Children at the expected level of development will:</u></p> <ul style="list-style-type: none">- 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.

What planning looks like in EYFS at Chacewater School in Maths

Teachers in the reception class plan lessons using a Smart Slide, visual representations and concrete materials. They teach the number of the week – which is a link to how number is constructed, where numbers come in terms of a number line and how this

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number can be represented. Teachers in the EYFS stage then use the mastering number materials, resources and slides to teach number. Teachers adapt plans when necessary and create their own but follow the mastery number guidance. Teachers use White Rose as a tool to support other aspects of Maths objectives linked to the Early Years Framework. Teachers create Smart Slides to support this.

Below is an outline of how planning is then mapped out at Chacewater in EYFS.

NUMBER OF THE WEEK: 1

3-4 Years- Fast recognition of up to 3 objects, without having to count them individually ('subitising').

Reception age - Count objects, actions and sounds.

Mastery number programme used to support. Key focus – **Subitising**

This week, the children will be encouraged to quantify sets of objects by subitising, rather than counting. When subitising, children can say how many there are in a small group of objects by 'just seeing' and knowing straightaway without needing to count.

White rose planning – **Early Number to 3**

Observations on Tapestry for assessment- #subitising #number1

#1 – Does not understand

#2 – Partially understands

#3 – Understands

#4 – Exceeding their understanding

How is Adult Led Activities for Maths mapped out?

At Chacewater we have 3 adult led groups that are taught over a rotational period of a 4 days. These activities link to the mastery number objectives, white rose and our number of the week / number formation.

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An example of how this looks in the planning is shown below:

How is continuous provision for Maths mapped out?

Continuous provision is mapped out at Chacewater in Maths linked to:

Childrens previous learning

Mastery Number Links

Number and Number Formation

Children have opportunities to access Maths challenge stations during the period of the day. Children also get access to Maths resources, representations and concrete materials during their inside and outside provision.

An example of our planning

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Teacher Input 11am		Teacher-Led Activity (extend across the week during LL to capture every child for Objectives - each group contains 10 children.	Continuous Provision Opportunity for child-initiated learning throughout the day along with topic provision.
Monday	Starter: Number of the week is 1. Input - SMART SLIDE	<i>Monday launch lesson - teacher led.</i>	Continuous linked to number - Number puzzles out on table Whiteboards and number cards to form numbers.
Tuesday	Starter: Number of the week is 1. Teach: SMART SLIDE		

MATHS PLANNING		Acorns Class Autumn 1	week 3
Wednesday	Starter: Number of the week is 1 - Teach: SMART SLIDE	OUTSIDE OR INSIDE - LW to lead Duple blocks - Show children a variety of numbers from 1-5, can you build me a tower with the correct number of blocks with the number I am showing you? Now pop the children in pairs. We are now going to create a tower that matches our friends tower, how can we do this? Let's talk through what we are doing? Do we have the same number of blocks? Are there the same colours? What's the same about our towers? INSIDE - LT and EB TO RUN INDOOR ACTIVITIES. Subitising challenge -Have an arrangement of objects hidden under a blanket/ cloth. These arrangements can be anything up to 5. Children have a picture card (dice representative) of a number that was given to them by the class teacher. Children have to splat/ say snap to the arrangement of objects that are	Continuous linked to Mastery programme - How many different ways can you make these numbers (numbers up to 3). Have in tough tray different objects, numicon, dice representatives, objects etc and an outline of numbers 1-3 and a space for children to sort them. Continuous linked to white rose - Snap game, can you match the
Thursday	Starter: Number of the week is 1. Teach: SMART SLIDE		
Friday	Starter - Number of the week 1. Teach - SMART SLIDE		

	<p>Once this is done, can they make their own arrangement of objects and work in pairs to play snap.</p> <p>Number recognition- Can you order numbers from 1-5 and match the correct amount of quantities to these numbers (use bears, counters etc. Can some children do <u>anymore</u> than 5?</p> <p>Resources needed to get ready: Counters, bears etc. Duple blocks Number cards Cloth/blanket</p>
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Birth to 3-year-old strands	3-4-Year-old strands	The Reception child strands
<ul style="list-style-type: none"> Combine objects like stacking blocks and cups. Put objects inside others and take them out again. Take part in finger rhymes with numbers. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten.

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- 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.

- 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.

- 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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- 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...'

Early Mathematics (NCETM)

There are six main areas that collectively underpin children's early mathematical learning, and which provide the firm foundations for the maths that children will encounter as they go up the years in primary school.

They are:

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.

<https://www.ncetm.org.uk/resources/51439>

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Counting Principles:

The one-one principle: This involves children assigning one number name to each object counted.

The stable-order principle: Children understand counting needs to be in a certain order.

The cardinal principle: Children understand that the number name assigned to the final object in a group is the total number of objects in that group.

The abstraction principle: This means children know anything can be counted.

The order-irrelevance principle: This involves children understanding the order that we count objects in doesn't matter and there will still be the same number.