

## Orchard School Mathematics curriculum overview.

### Intent

At the Orchard we want all children to master skills and gain a deep, secure understanding of their knowledge across the curriculum.

We want the children to be motivated to learn, to be able to reason and use and apply their learning.

We will provide a language rich curriculum and high quality teaching for mastery supported by thorough planning and assessment to build on prior knowledge.

### Aims

The Early Years framework aims to ensure that all pupils:

- 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.

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

## Reception NCETM Mastering Number

### Reception Autumn 1

Subitising: \*perceptually subitise within 3 \*identify sub-groups in larger arrangements \*create their own patterns for numbers within 4 \*practise using their fingers to represent quantities which they can subitise \*experience subitising in a range of contexts, including temporal patterns made by sounds.

Cardinality, ordinality and counting \*relate the counting sequence to cardinality, seeing that the last number spoken gives the number in the entire set \*have a wide range of opportunities to develop their knowledge of the counting sequence, including through rhyme and song \*have a wide range of opportunities to develop 1:1 correspondence, including by coordinating movement and counting \*have opportunities to develop an understanding that anything can be counted, including actions and sounds \*explore a range of strategies which support accurate counting.

Composition: \*see that all numbers can be made of 1s \*compose their own collections within 4.

Comparison: \*understand that sets can be compared according to a range of attributes, including by their numerosity \*use the language of comparison, including 'more than' and 'fewer than' \*compare sets 'just by looking'.

### Reception Autumn 2

Subitising \*continue from first half-term \*

subitise within 5, perceptually and conceptually, depending on the arrangements.

Cardinality, ordinality and counting \*continue to develop their counting skills \*explore the cardinality of 5, linking this to dice patterns and 5 fingers on 1 hand \*begin to count beyond 5 \*begin to recognise numerals, relating these to quantities they can subitise and count.

Composition \*explore the concept of 'wholes' and 'parts' by looking at a range of objects that are composed of parts, some of which can be taken apart and some of which cannot \*explore the composition of numbers within 5.

Comparison \*compare sets using a variety of strategies, including 'just by looking', by subitising and by matching \*compare sets by matching, seeing that when every object in a set can be matched to one in the other set, they contain the same number and are equal amounts.

## Reception Spring 1

Subitising: \*increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements \*explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part \*experience patterns which show a small group and '1 more' \*continue to match arrangements to finger patterns.

Cardinality, ordinality and counting \*continue to develop verbal counting to 20 and beyond \*continue to develop object counting skills, using a range of strategies to develop accuracy \*continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 order numbers, linking cardinal and ordinal representations of number.

Composition: \*continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 \*explore the composition of 6, linking this to familiar patterns, including symmetrical patterns \*begin to see that numbers within 10 can be composed of '5 and a bit'.

Comparison \*continue to compare sets using the language of comparison, and play games which involve comparing sets \*continue to compare sets by matching, identifying when sets are equal \*explore ways of making unequal sets equal.

## Reception Spring 2

Subitising: \*explore symmetrical patterns, in which each side is a familiar pattern, \*linking this to 'doubles'.

Cardinality, ordinality and counting \*continue to consolidate their understanding of cardinality, working with larger numbers within 10 \*become more familiar with the counting pattern beyond 20.

Composition \*explore the composition of odd and even numbers, looking at the 'shape' of these numbers \*begin to link even numbers to doubles \*begin to explore the composition of numbers within 10.

Comparison

\*compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its position in the number system.

## Reception Summer 1

Subitising \*continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns \*use subitising skills to enable them to identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number \*subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 \*be encouraged to identify when it is appropriate to count and when groups can be subitised.

Cardinality, ordinality and counting \*continue to develop verbal counting to 20 and beyond, including counting from different starting numbers \*continue to develop confidence and accuracy in both verbal and object counting.

Composition \*explore the composition of 10.

Comparison \*order sets of objects, linking this to their understanding of the ordinal number system.

## Reception Summer 2

In this half-term, the children will consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers.

Exploring pattern with shape, colour and sound

2D shapes and their key features, some 3D shapes

## Year 1 NCETM GLF

**NCP 1NPV1** through daily counting routines

**NCP 1NF1** by teaching Number Fact Fluency 15 minutes per day outside of the daily maths lesson: see [NCETM Mastering overview](#)

## Year 1 NCETM GLF Autumn 1

Early Years - Year 1 Transition

**NCP 1.1:** Comparison of quantities and measures

1.2: Introduction to 'whole' and 'parts'

## Year 1 NCETM GLF Autumn 2

**NCP 1.3:** Composition of numbers: 0-5

**NCP 1.4:** Composition of numbers: 6-10

**NCP** Geometry: Properties of Shape

## Year 1 NCETM GLF Spring 1

**NCP** Geometry: Properties of Shape

**NCP 1.5:** Additive structures: aggregation and partitioning

**NCP 1.6:** Additive structures: augmentation and reduction

## Year 1 NCETM GLF Spring 2

**NCP 1.7:** Addition & subtraction: strategies

**NCP 1.10:** Composition numbers: 11-19 (including Measurement: length & height)

<b>Year 1 NCETM GLF</b>	<b>Summer 1</b>
Measurement: mass and volume <b>NCP</b> 2.1 Counting, Unitising and Coins	
<b>Year 1 NCETM GLF</b>	<b>Summer 2</b>
Fractions Geometry-Position and Direction Time	
<b><u>Year 2 NCETM GLF</u></b>	
<b>NCP</b> 2NF1 teaching Number Fact Fluency 15 minutes per day outside of the daily maths lesson: see <u>NCETM Mastering Number overview</u>	
<b>Year 2 NCETM GLF</b>	<b>Autumn 1</b>
<b>NCP</b> 1.8: Composition: multiples of 10 up to 100 <b>NCP</b> 1.9: Composition of numbers: 20-100 1.10: Composition numbers: 11-19 <b>NCP</b> 1.11 A&S: Bridging 10 <b>NCP</b> 1.12: A&S: Subtraction as Difference	
<b>Year 2 NCETM GLF</b>	<b>Autumn 2</b>
<b>NCP</b> 1.13: A&S: two digit and single digit numbers <b>NCP</b> 1.14: A&S: two digit numbers& multiples of ten <b>NCP</b> 2.2: Multiplication representing equal groups <b>NCP</b> 2.3 Groups of 2 and commutativity (1)	
<b>Year 2 NCETM GLF</b>	<b>Spring 1</b>

**NCP** 2.4 Groups of 10 and 5, and factors of 0 and 1  
**NCP** 2.5 Commutativity (2) doubling & halving  
**NCP** 2.6 Quotitive & partitive division

## **Year 2 NCETM GLF                  Spring 2**

**NCP** Geometry: Properties of Shape  
**NCP** 1.15 Addition: two digit & two digit numbers  
**NCP** 1.16: Subtraction: two digit & two digit numbers  
Money

## **Year 2 NCETM GLF                  Summer 1**

Fractions  
Time  
KS1 Maths Assessments

## **Year 2 NCETM GLF                  Summer 2**

Measurement (length, mass, capacity, temp.)  
Geometry: Position and Direction  
**NCP** 2.5 Commutativity (2) doubling & halving  
**NCP** 2.6 Quotitive & partitive division