

2023-24 Reception overview

Remember - You are creating great mathematicians!

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
MN	Subitising within 5 diff arrangements, intro H no frame, composition up to 5, finger patterns, counting, compare sets, whole/part		Subitising, counting, composition beyond 5, compare 2 sets (equal/not), doubles, numerals, identify missing parts, 5 & bit structure, sort odd/even on shape, number pattern of counting, join in verbal counts beyond 20 using pattern		Counting to larger nos, number facts, 10 frame, doubles on 10 frame, compare sets, dev sense of magnitude, dev conceptual subitising	
There are 4 Mastering Number sessions provided per week – use the fifth day to consolidate & deepen learning around the weekly focus, connecting to other areas of maths & contexts (including spatial thinking and pattern).						
Week 1	Transition & baseline	Comparison (MN wk5)	Cardinality, ordinality & counting (MN wk10)	Composition (MN wk 14)	Composition (MN wk18)	Comparison (MN Wk 25) Assessments
Week 2	Routines, songs, rhymes, counting & baseline	Counting, ordinality & cardinality (MN wk6)	Subitising (MN wk11)	Composition (MN wk 15)	Composition (MN wk19)	Doubling/halving Review, revisit, assess Assessments
Week 3	Routines, songs, rhymes, counting, sorting & baseline	Comparison (MN Wk 7)	Counting, ordinality & cardinality (MN Wk 12)	Counting, ordinality, cardinality (MN wk16)	Composition (MN wk20)	Consolidate & deepen
Week 4	Spatial thinking – shape & space	Composition (MN wk8)	Composition (MN wk13)	Comparison (MN wk17)	Counting, ordinality, cardinality (MN wk 21)	Addition – Aggregation
Week 5	Subitising within 3 (MN intro wk 1)	Composition (MN wk9)	Composition (MN wk13)	Spatial reasoning, pattern, shape (Easter theme)	Subitising (MN wk22)	Addition/Subtraction

Week 6	Counting, ordinality & cardinality (MN wk2)	Spatial Reasoning (shape) & measure (xmas links)	Half term <i>Working with parents: – time, sequencing events, naming days of the week, time words, share getting dressed.</i>	<i>Working with parents: share pattern making & putting away the shopping.</i>	Easter	<i>Working with parents: Making plans, walking to the shops.</i>	Pattern
Week 7	Composition (MN wk3)	Shape & measure (time) Xmas links					Measure (Pre- I RtPC)
Week 8	Subitising (MN wk4)	Xmas holiday <i>Working with parents: share free apps to support subitising & simple subitising ideas for home & share playing with toy vehicles & people.</i>					Summer <i>Working with parents: Subitising, stories, making a snack, playing with dough.</i>
Total weeks: 39	Half term <i>Working with parents: share EYs maths dictionary (available to print) & counting activities, inc links to counting songs & rhymes.</i>						

Statutory Framework for EYs 2021

[Statutory framework for the early years foundation stage \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Mathematics

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**.

(Note how learning in mathematics is closely linked to learning in the other key areas, eg: songs, rhymes, stories can be used to develop both literacy and mathematics alongside each other, mathematics has a strong thread of speaking and listening running through the teaching, which links to children's development in this area.)

Early Learning Goals (the 'what')

Warning: Avoid focus on the goal itself and aiming for this end point – instead plan to develop the mathematical understanding and meaningful application that will lead to this goal - this relies on teachers' subject and pedagogical knowledge, including understanding of learning trajectories/pathways (the 'how' and the 'why').

Number Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number; 14
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns Children at the expected level of development will:

- 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.

Note: "The ELGs should not be used as a curriculum or in any way to limit the wide variety of rich experiences that are crucial to child development." (p11)

Non statutory guidance:

Development Matters:

[Development Matters - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

Birth to Five Matters:

[Birthto5Matters-download.pdf](#)

EYs Environment

Children learn and thrive within enabling environments. Stimulating and challenging environments where exploration and play are valued are important. Children should be able to immerse themselves in outdoor as well as indoor spaces. The MTP provides guidance for daily direct teaching sessions and ideas for continuous provision and daily routines – it is important that these learning opportunities throughout the day are discussed at the planning stage, based on assessment of children and their current stage of learning, interests and learning in other areas.

NB: It is expected that spatial reasoning and pattern (beyond numerical patterns) are developed across the year within daily routines, continuous provision and across all areas of learning.

DfE/NCETM Guidance – Ready to Progress Criteria – Year 1 readiness:

In order to be ready to begin the Y1 programme of study, by the end of reception children should be able to meet the criteria outlined below each topic.

Number and place value

- Begin to develop a sense of the number system by verbally counting forward to and beyond 20, pausing at each multiple of 10.
- Play games that involve moving along a numbered track and understand that larger numbers are further along the track.
- Begin to experience partitioning and combining numbers within 10.

- Distribute items fairly, for example, put 3 marbles in each bag. Recognise when items are distributed unfairly.

Addition/Subtraction

- Understand the cardinal value of number words, for example understanding that ‘four’ relates to 4 objects. Subitise for up to 5 items. Automatically show a given number using fingers.
- Devise and record number stories, using pictures, numbers, and symbols (such as arrows).

Geometry/Shape

- See, explore and discuss models of common 2D and 3D shapes with varied dimensions and presented in different orientations (for example, triangles not always presented on their base).
- Select, rotate and manipulate shapes for a particular purpose, for example:
 - rotating a cylinder so it can be used to build a tower
 - rotating a puzzle piece to fit in its place.

Early Years 6 areas of Maths Learning (see NCETM):

[Early Years | NCETM](#)



Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'how many', 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 (joined 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

See progression map for each area for further support around planning/assessment.

DfE 'Help for Early Years Providers'

[Mathematics - Help for early years providers - GOV.UK \(education.gov.uk\)](https://www.gov.uk/education.gov.uk/maths-help-for-early-years-providers)

(See for further support around EYs pedagogy and ideas for planning/assessment, including the EYs environment.)

Early Childhood Maths Group

See for further ideas to support planning/assessment, in particular around spatial reasoning (see the spatial reasoning toolkit).

[Spatial Reasoning – ECMG \(earlymaths.org\)](https://www.earlymaths.org/)

See NCETM for support on how to use Numberblocks

[Early Years | NCETM](https://www.ncetm.org.uk/early-years)

Including, with parents.



Numberblocks Support
Materials

Materials to support Early Years and Year 1 teachers



Numberblocks at home

Resources to accompany the CBeebies
Numberblocks series, designed for parents to use at
home with children

NB: It is not always necessary to use the Numberblocks episode in direct teaching, and when a video clip is used, it is not always necessary to use the whole episode and not always in one day, eg: one episode could be split up into 2 or 3 sessions over a week, or repeated (teacher judgement).

Maths at Home

See: [Maths postcards for families – ECMG \(earlymaths.org\)](https://www.earlymaths.org/)



CPD Opportunities with Central Maths Hub:



4 days of EYs specific subject knowledge development for teachers of mathematics.


The 4 days involve practitioners in exploring early years specific pedagogy and the learning trajectories toward key learning for end of reception year.

Between workshops teachers use a case study approach to putting changes into practice in setting.

Head Teachers and Maths Leads are invited to an online introduction session and a final celebration session on the last day.

Two pathways available (each is 4 days): Shape, space, pattern, measure or number pathway.

Girls and STEM – Research and Innovation Project

 **Central Maths Hub** @CentralMathsHub · Oct 20 ...

FREE CPD - Supporting girls in maths and STEM. Free research and Innovation Work Group (EY–KS5)

Dates of Work Group now confirmed. Sign up now to secure your place.
centralmathshub.com/ncp22-31-suppo...

[NCP22-31 Supporting girls in Maths and STEM - The Central Maths Hub](https://centralmathshub.com/ncp22-31-suppo...)