



Maths in EYFS

Mathematics: Numbers

	A Unique Child: observing what a child is learning	Positive Relationships: what adults could do	Enabling Environments: what adults could provide
 30-50 months	<ul style="list-style-type: none"> • Uses some number names and number language spontaneously. • Uses some number names accurately in play. • Recites numbers in order to 10. • Knows that numbers identify how many objects are in a set. • Beginning to represent numbers using fingers, marks on paper or pictures. • Sometimes matches numeral and quantity correctly. • Shows curiosity about numbers by offering comments or asking questions. • Compares two groups of objects, saying when they have the same number. • Shows an interest in number problems. • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. • Shows an interest in numerals in the environment. • Shows an interest in representing numbers. • Realises not only objects, but anything can be counted, including steps, claps or jumps. 	<ul style="list-style-type: none"> • Use number language, e.g. 'one', 'two', 'three', 'lots', 'fewer', 'hundreds', 'how many?' and 'count' in a variety of situations. • Support children's developing understanding of abstraction by counting things that are not objects, such as hops, jumps, clicks or claps. • Model counting of objects in a random layout, showing the result is always the same as long as each object is only counted once. • Model and encourage use of mathematical language e.g. asking questions such as 'How many saucepans will fit on the shelf?' • Help children to understand that one thing can be shared by number of pieces, e.g. a pizza. • As you read number stories or rhymes, ask e.g. 'When one more frog jumps in, how many will there be in the pool altogether?' • Use pictures and objects to illustrate counting songs, rhymes and number stories. • Encourage children to use mark-making to support their thinking about numbers and simple problems. • Talk with children about the strategies they are using, e.g. to work out a solution to a simple problem by using fingers or counting aloud. 	<ul style="list-style-type: none"> • Give children a reason to count, e.g. by asking them to select enough wrist bands for three friends to play with the puppets. • Enable children to note the 'missing set', e.g. 'There are none left' when sharing things out. • Provide number labels for children to use, e.g. by putting a number label on each bike and a corresponding number on each parking space. • Include counting money and change in role-play games. • Create opportunities for children to separate objects into unequal groups as well as equal groups. • Provide story props that children can use in their play, e.g. varieties of fruit and several baskets like Handa's in the story <i>Handa's Surprise</i> by Eileen Browne.
 40-60+ months	<ul style="list-style-type: none"> • Recognise some numerals of personal significance. • Recognises numerals 1 to 5. • Counts up to three or four objects by saying one number name for each item. • Counts actions or objects which cannot be moved. • Counts objects to 10, and beginning to count beyond 10. • Counts out up to six objects from a larger group. 	<ul style="list-style-type: none"> • Encourage estimation, e.g. estimate how many sandwiches to make for the picnic. • Encourage use of mathematical language, e.g. number names to ten: 'Have you got enough to give me three?' • Ensure that children are involved in making displays, e.g. making their own pictograms of lunch choices. Develop this as a 3D representation using bricks and discuss the most popular choices. • Add numerals to all areas of learning and development, e.g. to a display of a favourite story, such as 'The Three Billy Goats Gruff'. 	<ul style="list-style-type: none"> • Provide collections of interesting things for children to sort, order, count and label in their play. • Display numerals in purposeful contexts, e.g. a sign showing how many children can play on a number track. • Use tactile numeral cards made from sandpaper, velvet or string. • Create opportunities for children to experiment with a number of objects, the written numeral and the written number word. Develop this through matching activities with a range of numbers, numerals and a selection of objects.

Development matters

Mathematics: Numbers

	A Unique Child: observing what a child is learning	Positive Relationships: what adults could do	Enabling Environments: what adults could provide
	<ul style="list-style-type: none"> • Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. • Counts an irregular arrangement of up to ten objects. • Estimates how many objects they can see and checks by counting them. • Uses the language of 'more' and 'fewer' to compare two sets of objects. • Finds the total number of items in two groups by counting all of them. • Says the number that is one more than a given number. • Finds one more or one less from a group of up to five objects, then ten objects. • In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. • Records, using marks that they can interpret and explain. • Begins to identify own mathematical problems based on own interests and fascinations. <p>Early Learning Goal Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.</p>	<ul style="list-style-type: none"> • Make books about numbers that have meaning for the child such as favourite numbers, birth dates or telephone numbers. • Use rhymes, songs and stories involving counting on and counting back in ones, twos, fives and tens. • Emphasise the empty set and introduce the concept of nothing or zero. • Show interest in how children solve problems and value their different solutions. • Make sure children are secure about the order of numbers before asking what comes after or before each number. • Discuss with children how problems relate to others they have met, and their different solutions. • Talk about the methods children use to answer a problem they have posed, e.g. 'Get one more, and then we will both have two.' • Encourage children to make up their own story problems for other children to solve. • Encourage children to extend problems, e.g. "Suppose there were three people to share the bricks between instead of two". • Use mathematical vocabulary and demonstrate methods of recording, using standard notation where appropriate. • Give children learning English as additional language opportunities to work in their home language to ensure accurate understanding of concepts. 	<ul style="list-style-type: none"> • Use a 100 square to show number patterns. • Encourage children to count the things they see and talk about and use numbers beyond ten • Make number games readily available and teach children how to use them. • Display interesting books about number. • Play games such as hide and seek that involve counting. • Encourage children to record what they have done, e.g. by drawing or tallying. • Use number staircases to show a starting point and how you arrive at another point when something is added or taken away. • Provide a wide range of number resources and encourage children to be creative in identifying and devising problems and solutions in all areas of learning. • Make number lines available for reference and encourage children to use them in their own play. • Big number lines may be more appropriate than counters for children with physical impairments. • Help children to understand that five fingers on each hand make a total of ten fingers altogether, or that two rows of three eggs in the box make six eggs altogether.

<https://whiterosemaths.com/resources/schemes-of-learning/reception-sol/>

	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	Place Value - Numbers to 5 Addition and Subtraction - Sorting Place Value - Comparing groups Addition and Subtraction - Change within 5 Measurement - Time											
Spring	Addition and Subtraction - Numbers to 5 Place Value - Numbers to 10 Addition and Subtraction - Addition to 10 Geometry - Shape and space											
Summer	Geometry - Exploring patterns Addition and Subtraction - Count on and back Place Value - Numbers to 20 Multiplication and Division - Numerical patterns Measurement - Measure											

Reception Guidance



#MathsEveryoneCan

https://www.dropbox.com/s/mxbsc7crma52uby/GLOWMathsReception_MasterySchemeOfWork_Draft_May16.pdf?dl=0



Reception Mastery Scheme of Work

www.glowmathshub.org
@GLOWmaths

Enjoying mathematics • Creating mathematicians • Breaking down barriers



Teaching for Mastery

Questions, tasks and activities
to support assessment

Year 1

Mike Askew, Sarah Bishop, Clare Christie,
Sarah Eaton, Pete Griffin and Debbie Morgan

<https://www.ncetm.org.uk/resources/49449>

Children in EYFS

Playing & exploring – engagement

- Finding out and exploring
- Being willing to have a go
- Using what they know in play

Active learning – motivation

- Being involved and concentrating
- Keeping on trying/persevering
- Enjoying achieving what they set out to do

Creating & thinking critically – thinking

- Having own ideas
- Choosing ways to do new things & finding new way

EYFS & Number sense



- Structured play, adult led activities and child initiated learning
- Cross-curricular learning
- Whole-class teaching (15 – 20 minutes per day)
- Small focus-group teaching

Number of the week & Numberblocks

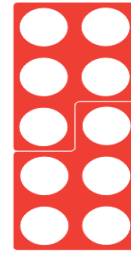


Understanding number



TABLE

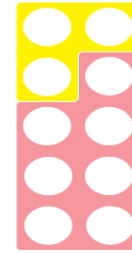
Numicon



$$5+5$$



$$6+4$$



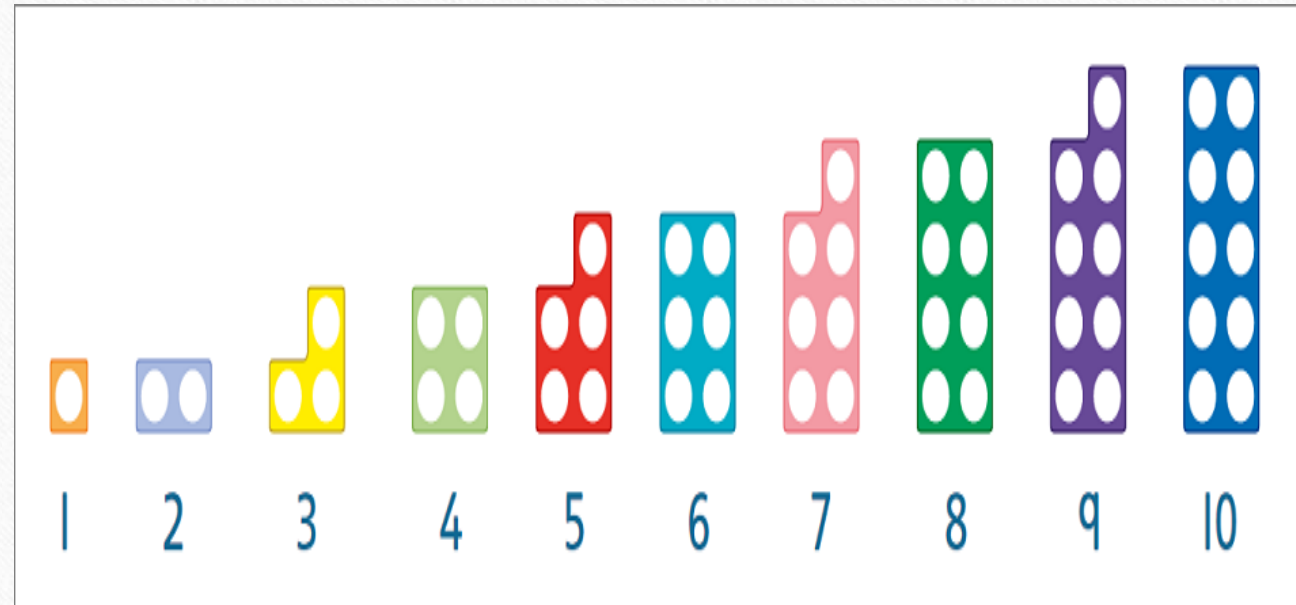
$$7+3$$



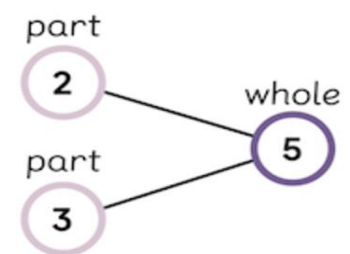
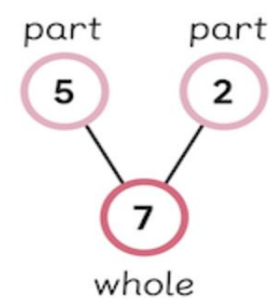
$$8+2$$



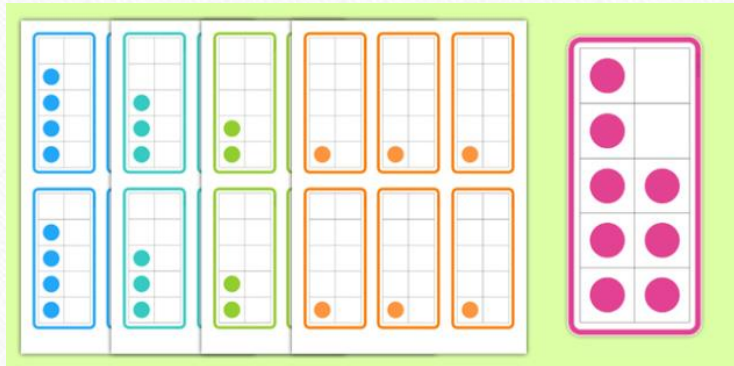
$$9+1$$



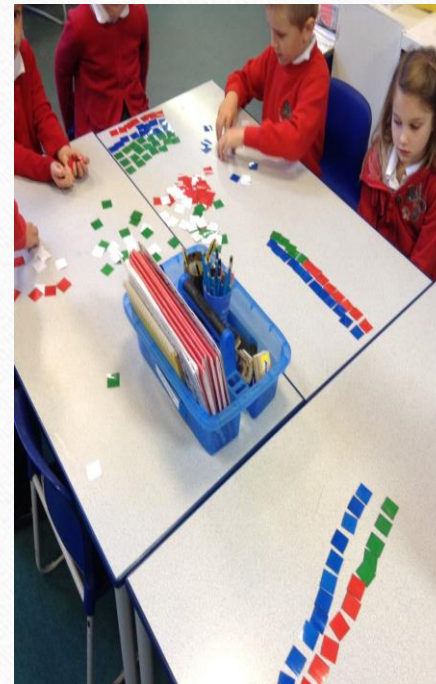
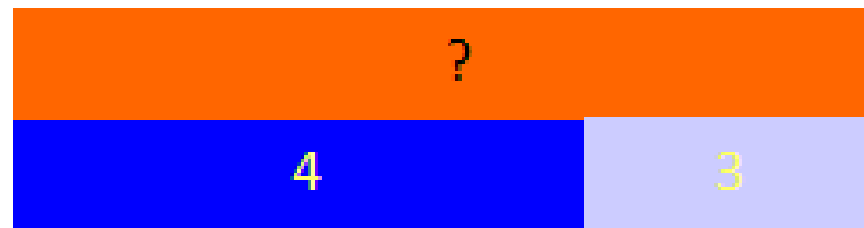
Part-whole model



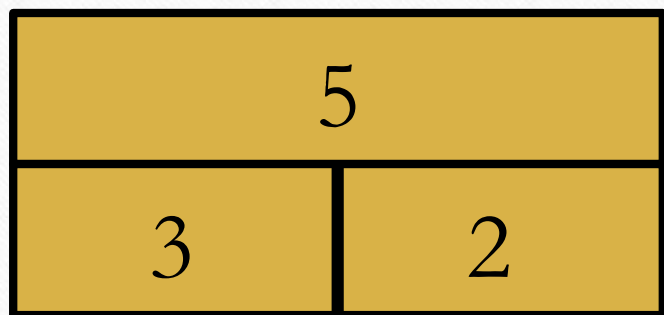
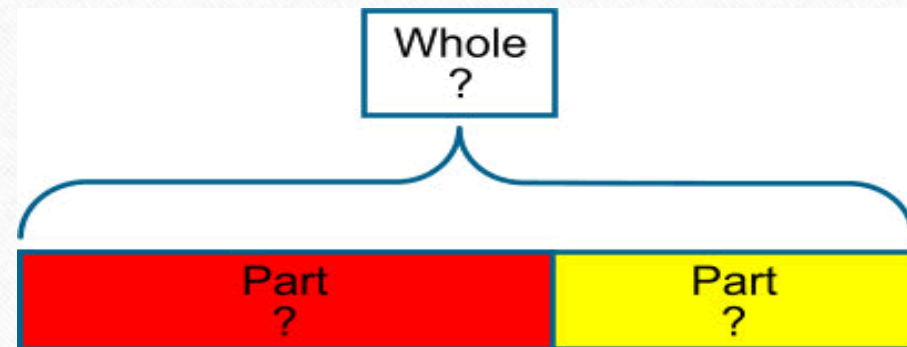
Tens frame & fives frame



Bar modelling



Bar modelling



$$3 + 2 = 5$$

$$5 = 3 + 2$$

$$2 + 3 = 5$$

$$5 = 2 + 3$$

$$5 - 3 = 2$$

$$2 = 5 - 3$$

$$5 - 2 = 3$$

$$3 = 5 - 2$$

What is mastery?

<http://www.glowmathshub.com/mastery-curriculum.html>