

Foundations for Maths in EYFS at Amberley Primary School



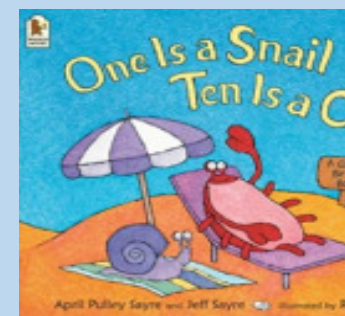
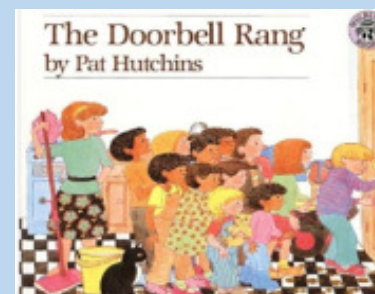
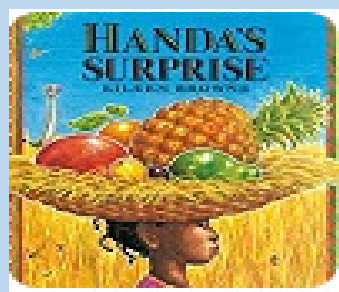
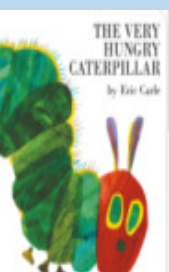
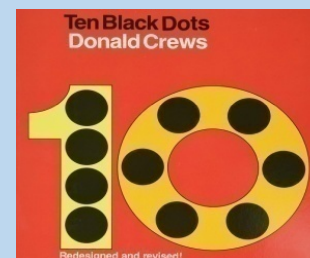
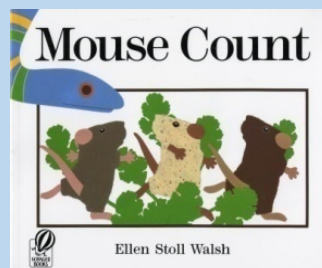
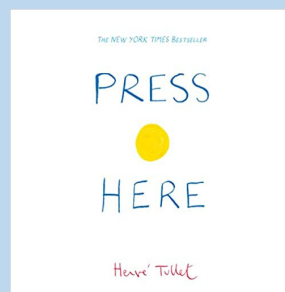
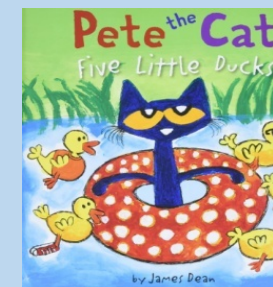
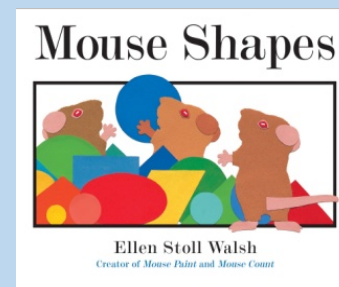
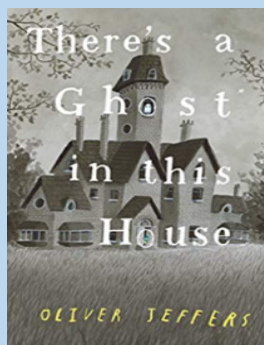
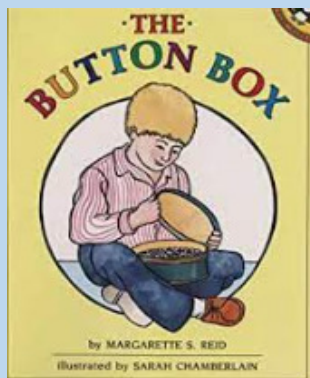
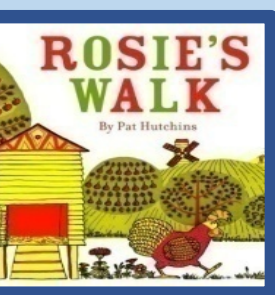
EYFS Mathematics is one of the four subject specific areas of the EYFS Statutory Framework, with the intention that by the end of Reception children will achieve both 'Number' and 'Numerical Patterns' Early Learning Goals. At Amberley Maths is promoted through continuous provision and through direct teaching.

Nursery planning is informed by the NCETM Early Years progression documents ensuring that our children develop firm mathematical foundations in the six key areas: Cardinality and Counting, Comparison, Composition, Pattern, Shape and Space Measures in an engaging way. In Nursery we sing a variety of number songs to develop our awareness of number order and counting, modelling and representing small quantities on our fingers. We sort varied objects and ourselves into sets and talk about the groups we create. We compare amounts and begin to recognise more, fewer and the same. We chat about shapes around us and use our own models, choosing shapes by their properties. We like to make a splash exploring capacity and talk about measuring using mathematical language; shorter, taller, lighter, heavier using varied resources in the provision. Through construction and role play creations we introduce positional language and our daily routines help children to develop an awareness of sequencing.

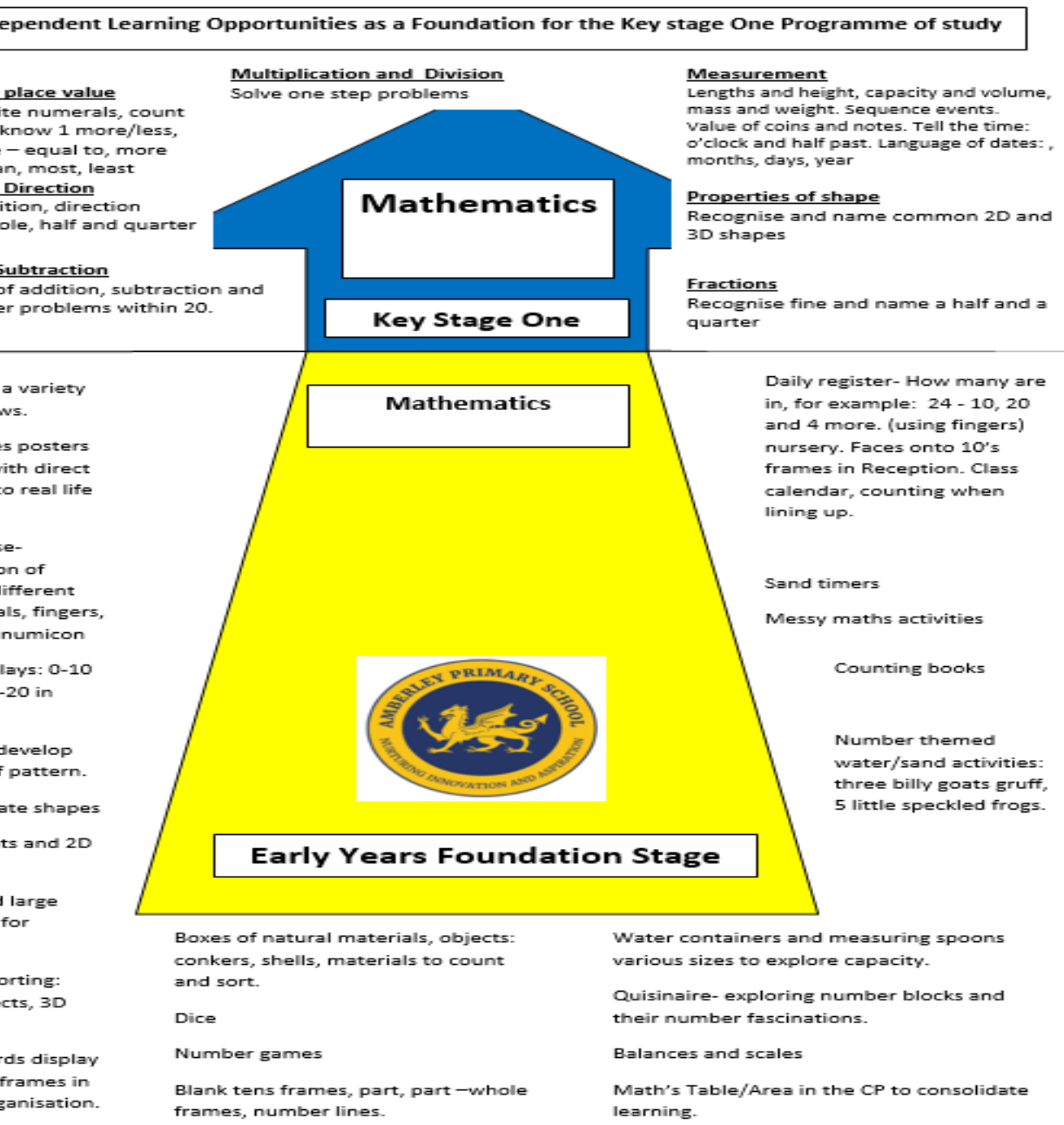
Maths is built upon in **Reception** where Mathematics direct teaching is taught using 'Mastering Number' programme designed by the NCETM. This programme is used from Reception and Key Stage 1 ensuring a clear progression of Mathematical knowledge and understanding. In the provision children notice quantities and talk about what they see, play games that consolidate new learning, create shapes, create patterns and investigate length, capacity using non standard and simple measuring equipment.

In our provision we encourage children's own mathematical thinking during play; practitioner interaction may provoke our children to demonstrate or explain their own mathematical understanding and reasoning. For example: Super sorting, but look I've got this one. Can I add it to your set? Why not.' How do you know it's 5? "Because I can see a 4 and a 1 and that makes 5"

We love to use books as a stimulus to support Mathematical development within our provision. Here are a few of the books that we love in EYFS at Amberley.



The following document shows in greater detail how our Amberley EYFS curriculum prepares children for Maths KS1 and beyond.



The activities below the blue arrow form part of our regular continuous provision offer at Amberley that support the foundations of Mathematical development.

The activities on the following slide show the progression of skills developed specific to Maths in Nursery and Reception that are taught through adult led direct teaching or specifically targeted in the provision within the Maths areas at Amberley.

Autumn	Spring	Summer
Count sets of objects or actions, demonstrating the cardinal rule within 5. Number composition to 5. Subitising different amounts. Number songs using numbers to 5. Comparing sets of objects using more than, fewer than. Count forwards to 10, naming the number after and counting on from a given number. Recognise commonality and make sets. Comparison of length and height To name common 2D shapes and describe properties in relation to sides and corners. Narrate the pattern of the school day using now, next, after playtime, after lunch, before home-time etc. Count sets of objects or actions, demonstrating the cardinal rule within 5. Number composition to 5. (Introduction to Part whole model) Subitising different amounts. Understanding 'equal' and knowing when a number is the same. Cardinality of objects and more abstract things such as claps. Sort by one criterion. Recognise the odd one out in a set. Count backwards within 10, understanding the number before and counting back from a given number To name 3D shapes and talk about the properties. Comparison of mass and capacity. To know how to continue an ABC pattern Narrate the pattern of a day using morning, lunchtime, afternoon, evening, bedtime, daytime, night-time	Perceptual subitising skills in increasingly complex arrangements. Recognition of numerals to 5. To know how to play track games, counting along a track. Stable order principle of numbers to 5. Use of language 'one more' 'one less' Talk about the difference in numbers. Composing and decomposing of numbers to 5 using part part whole relation. Composition 6, 7 and 8, partitioning and recombining. (using die. Dice, double dice frames) Focus on the numerosity of sets, without being diverted by colour, shape or size. Count forwards and back within 10. Narrate the pattern of a week using today, tomorrow, yesterday Design with 2D shapes. Make 2D shapes out of other 2D shapes To experiment more complex ABC variations: ABBC, ABBC, AAB Focus on counting 'how many' objects. Opportunities to practice counting beyond 20. Stable order principle of numbers to 10. Representing '5 and a bit' quantities. Ordering numbers to 8 (number blocks – staircase pattern). Composition of 7 using part part whole. Explore doubling quantities to 10. Sorting groups of objects linking to odd and even numbers. Count forwards and back within 10. To know how to play track games, counting along a track. Make comparison of length and height using non-standard measures. Demonstrate understanding of the composition 6, 7 and 8 by pair wise and five wise patterns on 10s frames Designs with 2D shapes – problems and properties. Narrate the pattern of a week using the names of the days. Make their own ABB, ABBC patterns.	Strategies for counting larger sets of objects that cannot be moved. Practice counting on from any given number. Subitising doubles on tens frames. Use own models and drawings to represent numbers within 5. Use spatial language to describe arrangements. Demonstrate understanding of the composition of 9 and 10 by partitioning and recombining and pair wise and five wise patterns on 10s frames Identify missing numbers in sequences up to 10. Ordering different representations on a number track. Use language to describe positions on a number track. Describe and follow the rules for simple linear track games. Count forwards and back within 20. Recall and apply double 1 to double 5 Recall subtraction facts within 5 Recall evens and odds and apply Make 3D models out of 3D shapes Sort 3D shapes according to properties and use purposefully with model making Narrate the pattern of a week using the names of days, weekend, today, tomorrow, yesterday Spot errors and explain pattern rules in ABB, ABC, ABBC patterns. Review of • Comparison • Counting • number patterns • automatic recall • Understanding of numbers to 10 • Rekenrek. Count by rote beyond 20. Count in tens. Recall and apply doubles and halves within 10 Continue and create more complex linear patterns. Continue and create circular and symmetrical designs, including tangrams with 2D and 3D shapes. Measure mass and capacity using simple non-standard measures.]

Autumn	Spring	Summer
Compare small sets of objects by processing language "more than". Build with blocks of different shapes and sizes and loose parts, making good choices based on their understanding of properties. Process simple positional vocabulary in the run of child-initiated play: on, in, next to. Match pairs to demonstrate a secure grasp of commonality. To sort objects into groups: colour, size, type and pattern. To recite numbers up to 5, to say the counting sequence using number songs as a stimulus. Compare small sets of objects by processing language "more than" and "fewer than". Count within and up to 5 with correspondence. Count sets to 5, applying the cardinal principle, including both manipulative and actions. Use one-word informal descriptions of properties of 3D shapes as they build. Process language of everyday size during play. Process and use positional vocabulary in large scale physical play and routines: under, at the top, down, through, behind, off. Sort sets of objects such as building blocks, 2D and 3D shapes, natural objects and patterned items into sets of identical members. To understand First and Next following a visual timetable.	Subitize within 2 Show sets on fingers within 5. Process and use positional vocabulary accurately in small world scenes and when building; on top, under, over, through Arrange 2D shapes, narrating choices with informal descriptions of properties. Create a set out of positive and negative examples of objects, for example 2, not 2. Use everyday language to compare size: large/small, big/little, tall/small, long/short To explore and understand number 1 and 2 To recite numbers up to 10, to say the counting sequence using number songs as a stimulus To describe a short sequence of events; first and after. Solve everyday problems with numbers up to 5. Process and use positional vocabulary accurately when out in the wider locality. Ascribe meaning to 3D shapes when building, according to their properties. Process language to Fill and empty containers. Process language to create structures or arrangements longer, shorter, taller, wider than mine. Describe patterns on resources and in the environment using everyday language or regularity and repetition to describe features. To explore and understand number 3, 4 and 5 To copy an ABAB pattern. Subitize within 3. Use marks to represent quantities during adult led, group activities. To talk about the sequence of events in their day Create a set out of positive and negative examples of objects, for example 3, not 3. Begin to use the language of more than/fewer than when determining the set with an adult model.	Link numerals to sets of 1, 2,3,4 and 5 with some adult support. Use absolute measurement vocabulary to describe everyday objects such as heavy, tall, big, tiny, full, empty Compare lengths by aligning and accurately identify longer, taller and shorter. Process and use positional vocabulary accurately when describing book illustrations. Continue an ABAB linear pattern with everyday objects. Talk about things that have happened in the past. To explore and understand number 4, begin to see how it is made up of smaller quantities. Use marks to represent quantity with some adult modelling. To talk about days of the week. Link numerals to sets within 5. Predict changes in amounts in stories and rhymes, counting forwards and backwards Use a few of their own symbols and marks to represent mathematical experiences. Combine 2D and 3D shapes to make new shapes and narrate the effects created. Compare area of 2D shapes by placing them on top of each other identifying and naming bigger and smaller Correct an error in an ABAB pattern. Participate accurately in ABAB repeated patterns of actions. Talk about things that have already happened and things that are going to happen. Use terms day and night in relation to stories. To explore and understand number 5- recognizing smaller quantities they can see within 5. Compare groups of objects using the language more than/fewer than.

Nursery offer at Amberley Primary school allows us to meet the EYFS Statutory Framework suggested Mathematical Development Learning specified in the 'Development Matters, Revised 2023' Document that states 3 years old (Nursery age) will be learning to:

• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').

• Recognise numbers past 5.

• Use one number for each item in order: 1,2,3,4,5.

• Understand that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') and use 'finger numbers' up to 5.

• Match 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'.

• Describe 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 and locations, using words like 'in front of' and 'behind'.

• Make comparisons between objects relating to size, length, weight and capacity.

• Identify and name 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.

• Recognise and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.

• Copy and create ABAB patterns – stick, leaf, stick, leaf.

• Spot and correct an error in a repeating pattern.

• Use language to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

some examples of our enacted curriculum linking to Mathematics.

Nursery

We sorted ourselves into groups by our eye colour and hair colour. We noticed which group had more by comparing how many were in each group.

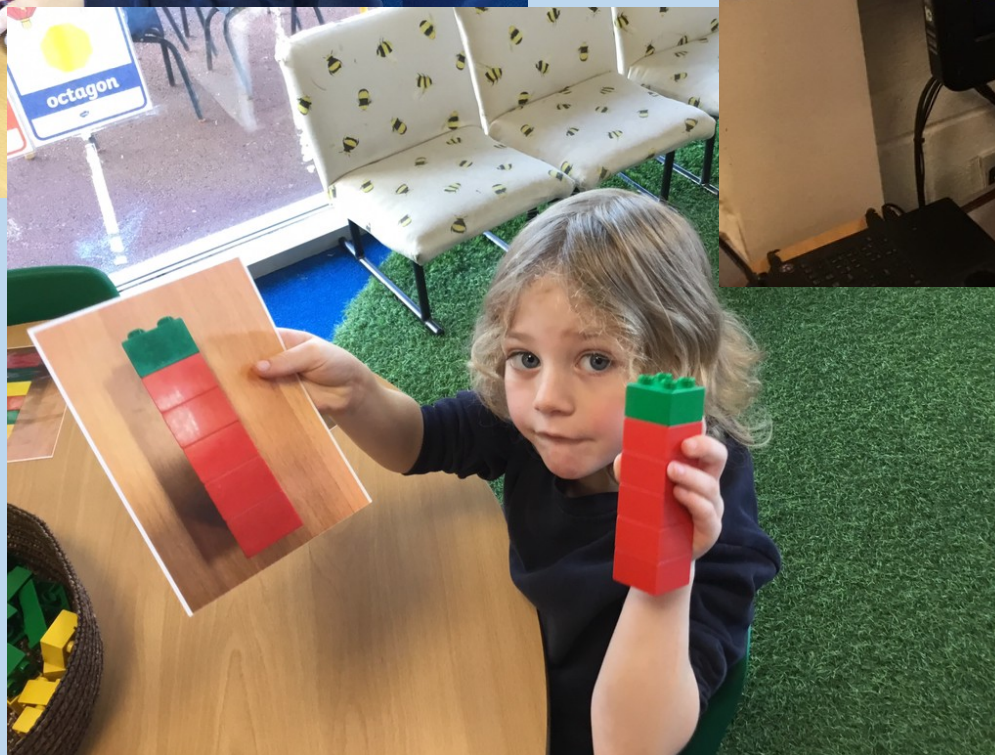
We are beginning to understand the term 'the same' and understand how we all have similarities and differences.





Sorting into sets using our own



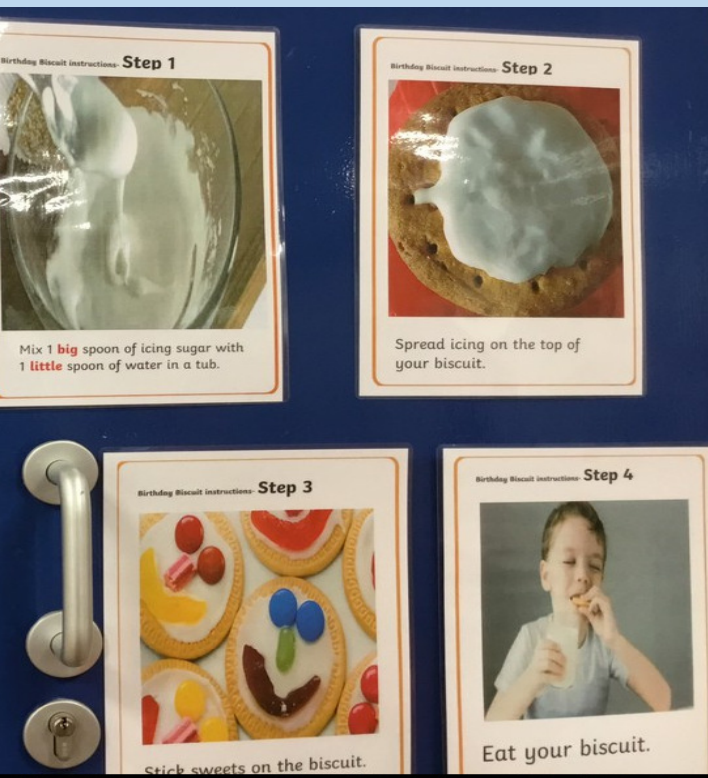


Patterns and positional language activities



We love Maths games- we talk about how many we need, select or make the numbers we need and we can often spot how many more we need to complete the game.





making party biscuits by following ordered instructions. Beginning to understand how numbers can be used to order a sequence of actions.





Investigating
Capacity- we
use the
terms full,
empty, not
full.

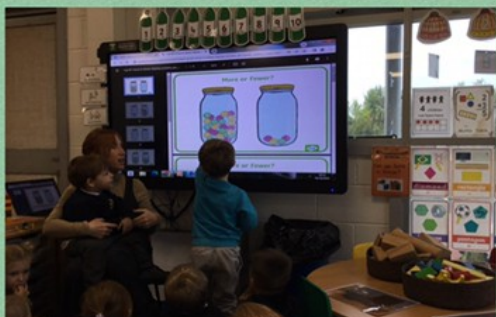
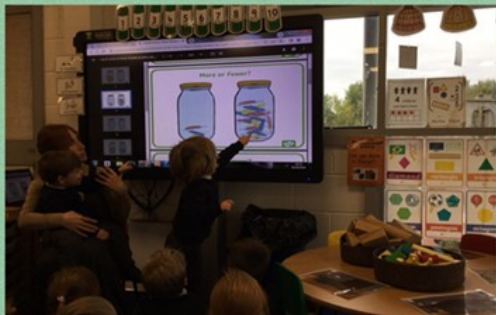
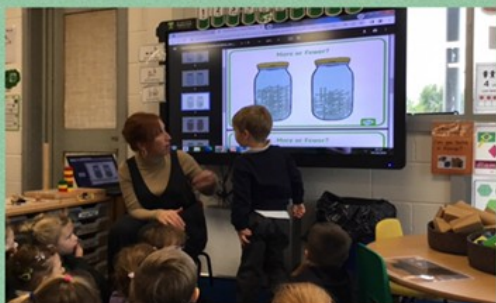
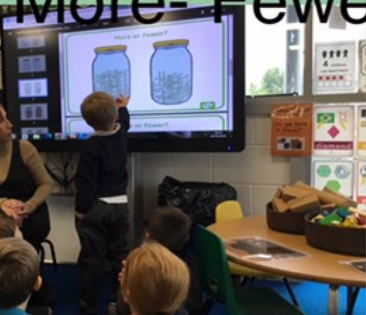




Number and subit



More- Fewer



PIC•COLLAGE



Making a set amount.



PIC•COLLAGE

Reception

Recreating shape pictures
using lollipop sticks and
talking about the shapes they
can see.



Learning about their
creations in the dough
area: “Look at this
one, it’s a Thomas one,
a Thomas Birthday
Cake. It has
1,2,3,4,5,6 candles on
and it has
1,2,3,4,5,6,7,8,9,10,1
1 icing on it.”





Exploring 3D shapes to find out which shapes roll and why?

“I’ve got two spheres.”

“It rolls like a ball. I’m going to test two out. They rolled.”

“ A pyramid just slides, then it goes over and over.”



Creating 3D shapes
in Reception

“It’s a pyramid
made of
straws. A 3D
shape. Faces
they’re triangles”



Creating AB patterns
representing numbers
matching numbers
representations to the
corresponding numbers



Comparing height
making shape
pictures.

Class vote for their favourite
healthy vegetable.
Comparing number and
identifying the most popular
and the least popular.



