



# Stukeley Meadows Primary School

Getting our best even better, every single day  
Be Kind – Work Hard – Aim High



## Maths at Stukeley Meadows Primary School

### EYFS

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At Stukeley we follow a scheme of Maths learning produced by *White Rose Education*. This is taught in every year group from EYFS to Year 6. Learning with White Rose Maths gives all children the opportunity to learn alongside the national curriculum guidelines in a fun, inclusive and age-appropriate way. White Rose Maths materials are designed to support primary children as they have fun with maths, exploring everything from times tables and number bonds to money and multiplication.

#### What does Maths in EYFS look like?

Maths is Reception evident in a range of ways. Each day we have a 20 minute taught session where the children are explicitly taught new concepts. It is also seen daily in our continuous provision (LEAD - learning, exploration and development - Time.) We have two maths areas, one which focusses on number and the other which focusses on shape, space and measure. Activities will be set up in these areas for children to deepen their learning of the concepts taught in the daily 20 minute sessions. Children have access to a range of equipment in these areas so may choose to deepen their learning in other ways. We also have a Maths area outside where these skills/ concepts can also be developed. We have rhyme time daily when counting songs are quite often the focus.

#### How can you support your child at home?

There are many ways you can support your child at home with Maths, these include, counting things like stairs, sweets and people, singing counting songs, baking and identifying shapes in the home or when out and about.

#### Our Scheme of learning

#### The long term overview

The schemes cover the DfE statutory framework for the EYFS and Educational Programme for Mathematics and will support a curriculum that embeds mathematical thinking and talk. The schemes support the ethos of the EYFS whilst at the same time enabling teachers to create a mathematically rich curriculum. Additionally, they allow for key mathematical concepts to be revisited and developed throughout the year. The guidance has been divided into 18 blocks and provides a variety of opportunities to develop the understanding of number, shape, measure and spatial thinking.

	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 term	Getting to know you		Match, sort and compare FREE TRIAL  VIEW	Talk about measure and patterns  VIEW	It's me 1, 2, 3  VIEW			Circles and triangles  VIEW	1, 2, 3, 4, 5  VIEW		Shapes with 4 sides  VIEW	
Spring term	Alive in 5  VIEW	Mass and capacity  VIEW	Growing 6, 7, 8  VIEW	Length, height and time  VIEW	Building 9 and 10  VIEW		Explore 3-D shapes  VIEW					
Summer term	To 20 and beyond  VIEW	How many now?  VIEW	Manipulate, compose and decompose  VIEW	Sharing and grouping  VIEW	Visualise, build and map  VIEW		Make connections  VIEW	Consolidation				

Below is a glance guide to how the White Rose Maths Reception schemes of learning link to the two forms of non-statutory curriculum guidance for the EYFS, Development Matters (DFE 2021) and Birth to 5 Matters (Early Education 2021)

# Number

## Comparison

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> <li>Experiment with their own symbols and marks as well as numerals.</li> </ul>	<ul style="list-style-type: none"> <li>Count objects, actions and sounds.</li> <li>Compare numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!</li> </ul>	<ul style="list-style-type: none"> <li>Uses number names and symbols when comparing numbers, showing interest in large numbers</li> <li>Estimates of numbers of things, showing understanding of relative size</li> </ul>
Autumn 3, Autumn 5 Spring 1 Summer 2	Autumn 1, Autumn 5 Spring 1, Spring 3, Spring 4, Spring 5 Summer 1, Summer 6	Autumn 2, Autumn 5	Spring 1, Spring 3, Spring 5 Summer 1, Summer 4

# Counting

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>Recite numbers past 5.</li> <li>Say one number for each item in order: 1, 2, 3, 4, 5.</li> </ul>	<ul style="list-style-type: none"> <li>Count beyond ten.</li> </ul>	<ul style="list-style-type: none"> <li>May enjoy counting verbally as far as they can go</li> <li>Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5.</li> <li>Uses some number names and number language within play, and may show fascination with large numbers</li> <li>Begin to recognise numerals 0 to 10</li> </ul>	<ul style="list-style-type: none"> <li>Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0</li> <li>Increasingly confident at putting numerals in order 0 to 10 (ordinality)</li> </ul>
Autumn 3, Autumn 5 Spring 3, Spring 5 Summer 1	Summer 1, Summer 6	Autumn 3, Autumn 5 Spring 1, Spring 5 Summer 1	Spring 5 Summer 1

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</li> <li>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> <li>Show 'finger numbers' up to 5.</li> </ul>	<ul style="list-style-type: none"> <li>Subitise</li> <li>Link the number symbol (numeral) with its cardinal number value.</li> </ul>	<ul style="list-style-type: none"> <li>Subitises one, two and three objects (without counting)</li> <li>Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle)</li> <li>Links numerals with amounts up to 5 and maybe beyond</li> <li>Explores using a range of their own marks and signs to which they ascribe mathematical meanings</li> </ul>	<ul style="list-style-type: none"> <li>Engages in subitising numbers to four and maybe five</li> <li>Counts out up to 10 objects from a larger group</li> <li>Matches the numeral with a group of items to show how many there are (up to 10)</li> </ul>
Autumn 3, Autumn 5 Spring 1	Autumn 3, Autumn 5 Spring 1, Spring 3, Spring 5 Summer 6	Autumn 3, Autumn 5 Spring 1 Summer 2	Autumn 5 Spring 1, Spring 3, Spring 5 Summer 4

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>Solve real world mathematical problems with numbers up to 5.</li> </ul>	<ul style="list-style-type: none"> <li>Understand the 'one more than/one less than' relationship between consecutive numbers.</li> <li>Explore the composition of numbers to 10.</li> <li>Automatically recall number bonds for numbers 0-5 and some to 10.</li> </ul>	<ul style="list-style-type: none"> <li>Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers</li> <li>Beginning to use understanding of number to solve practical problems in play and meaningful activities</li> <li>Beginning to recognise that each counting number is one more than the one before</li> <li>Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same</li> </ul>	<ul style="list-style-type: none"> <li>Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects</li> <li>Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three</li> <li>In practical activities, adds one and subtracts one with numbers to 10</li> <li>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" or "-"</li> </ul>
Autumn 5 Spring 1	Autumn 3, Autumn 5 Spring 1, Spring 3, Spring 5 Summer 2, Summer 4, Summer 6	Autumn 3, Autumn 5 Spring 1	Autumn 5 Spring 1, Spring 3, Spring 5 Summer 2, Summer 4, Summer 6

# Shape, Space and Measure

## Shape

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>• 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'.</li> <li>• Select shapes appropriately: flat surfaces for building, a triangular prisms for a roof, etc.</li> <li>• Combine shapes to make new ones – an arch, a bigger triangle, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.</li> </ul>	<ul style="list-style-type: none"> <li>• Chooses items based on their shape which are appropriate for the child's purpose</li> <li>• Responds to both informal language and common shape names</li> <li>• Shows awareness of shape similarities and differences between objects</li> <li>• Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes</li> <li>• Attempts to create arches and enclosures when building, using trial and improvement to select blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Uses informal language and analogies, (e.g. <i>heart-shaped and hand-shaped leaves</i>), as well as mathematical terms to describe shapes .</li> <li>• Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes</li> <li>• Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build.</li> </ul>
Autumn 4, Autumn 6 Spring 6	Autumn 6 Spring 6 Summer 3	Autumn 6 Spring 6 Summer 3	Autumn 4 Spring 6 Summer 3, Summer 5

# Spatial awareness

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>Compare quantities using language: 'more than', 'fewer than',</li> <li>Understand position through words alone – for example, "The bag is under the table," – with no pointing.</li> <li>Describe a familiar route.</li> <li>Discuss routes and locations, using words like 'in front of' and 'behind'.</li> </ul>	<ul style="list-style-type: none"> <li>Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</li> </ul>	<ul style="list-style-type: none"> <li>Responds to and uses language of position and direction</li> <li>Predicts, moves and rotates objects to fit the space or create the shape they would like</li> </ul>	<ul style="list-style-type: none"> <li>Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints</li> <li>Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)</li> <li>May enjoy making simple maps of familiar and imaginative environments, with landmarks</li> </ul>
Autumn 2, Autumn 4 Spring 3 Summer 5	Spring 6 Summer 3	Autumn 4 Spring 6 Summer 3	Spring 6 Summer 3, Summer 5



Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>• Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.</li> <li>• Extend and create ABAB patterns – stick, leaf, stick, leaf.</li> <li>• Notice and correct an error in a repeating pattern.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue, copy and create repeating patterns.</li> </ul>	<ul style="list-style-type: none"> <li>• Creates their own spatial patterns showing some organisation or regularity</li> <li>• Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC)</li> <li>• Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next</li> </ul>	<ul style="list-style-type: none"> <li>• Spots patterns in the environment, beginning to identify the pattern "rule"</li> <li>• Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat</li> </ul>
Autumn 2 Spring 6	Autumn 2 Spring 6 Summer 5	Autumn 2	Autumn 1 Spring 6 Summer 5

Development matters		Birth to 5 matters	
3 and 4 year olds	Reception	Range 5	Range 6
<ul style="list-style-type: none"> <li>• Make comparisons between objects relating to size, length, weight and capacity.</li> <li>• Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</li> </ul>	<ul style="list-style-type: none"> <li>• Compare length, weight and capacity.</li> </ul>	<ul style="list-style-type: none"> <li>• In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items</li> <li>• Recalls a sequence of events in everyday life and stories.</li> </ul>	<ul style="list-style-type: none"> <li>• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy</li> <li>• Becomes familiar with measuring tools in everyday experiences and play</li> <li>• Is increasingly able to order and sequence events using everyday language related to time</li> <li>• Beginning to experience measuring time with timers and calendars</li> </ul>
<p>Autumn 2 Spring 2, Spring 4 Summer 5</p>	<p>Spring 2, Spring 4 Summer 6</p>	<p>Autumn 2, Autumn 6 Spring 4</p>	<p>Autumn 6 Spring 2, Spring 4 Summer 6</p>

## EYFS Counting Principles

The White Rose scheme of learning supports specific teaching through small steps with adult-led activities and continuous provision. The focus is on building up the numbers slowly, so children gain a deep understanding of them and how they are composed. However, this does not mean children should not be counting and discussing larger numbers in routines such as lining up.

In EYFS, children are supported in gaining an understanding of the counting principles.

1. The one-to-one principle.
2. The stable-order principle.
3. The cardinal principle.
4. The abstraction principle.
5. The order-irrelevance principle.

These principles are covered in more detail on the following pages.

## The Counting Principles

Following research from Gelman and Gallistel in 1978, it is vital that teachers understand the five counting principles. (Gelman, R. & Gallistel, C. (1978) *The Child's Understanding of Number*. Cambridge, MA. Harvard University Press.)

### 1 The one-to-one principle.

This involves children assigning one number name to each object that is being counted. Children need to ensure that they count each object only once, ensuring they have counted every object.

Children will sometimes count objects more than once or miss an object out that needs to be counted. Encourage children to line up objects and touch each one as they count, saying one number name per object. This will also help to avoid children counting more quickly than they touch the objects which again shows they have not grasped one-to-one correspondence.



1



2



3



4



5

## The Counting Principles

### 2 The stable-order principle.

Children understand that, when counting, the numbers have to be said in a certain order.

Children need to know all the number names for the amount in the group they are counting. Teachers can therefore encourage children to count aloud to larger numbers without expecting them to count that number of objects immediately.

### 3 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.

In order to grasp this principle, children need to understand the one-to-one and stable-order principle. From a larger group, children select a given number and count them out. When asked 'how many?', children should be able to recall the final number they said. Children who have not grasped this principle will recount the whole group again.

## The Counting Principles

### 4 The abstraction principle.

This involves children understanding that anything can be counted, including things that cannot be touched, such as sounds and movements e.g. jumps.

When starting to count, many children rely on touching the objects in order to count accurately. Teachers can encourage abstraction on a daily basis by counting claps or clicks. They can also count imaginary objects in their head to encourage counting on. This involves the children visualising objects.

### 5 The order-irrelevance principle.

This involves children understanding that the order in which we count a group of objects is irrelevant. There will still be the same number.

Encourage children to count objects, left to right, right to left, top to bottom and bottom to top. Once children have counted a group, move the objects and ask children how many there are. If they count them all again they have not fully grasped this principle.

# Book List

These books are within the White Rose Maths Reception schemes of learning. They are not an exclusive but support the learning in each step

## Autumn Term

### Block 1 – Match, sort and compare

- A Pair of Socks by Stuart J. Murphy
- Seaweed Soup by Stuart J. Murphy
- The Button Box by Margarett S. Reid
- Beep Beep, Vroom Vroom! by Stuart J. Murphy

### Block 2 – Talk about measure and pattern

- Where's My Teddy? by Jez Alborough
- It's the Bear! by Jez Alborough
- The Blue Balloon by Mick Inkpen
  - Dear Zoo by Rod Campbell
  - My First Book of Patterns by Bobby and June George
  - We're Going on a Bear Hunt by Michael Rosen
- A-B-A-B-A – A Book of Pattern Play by Brian P. Cleary

### Block 3 – It's me 1, 2, 3

- Anno's Counting Book by Mitsumasa Anno
- How to Count to One by Casper Salmon
- Goldilocks and the Three Bears
  - The Gingerbread Man
  - A Squash and a Squeeze by Julia Donaldson
- The Three Billy Goats Gruff

### Block 4 – Circles and triangles

- Circle, Triangle, Elephant! A Book of Shapes and Surprises by Kenji Oikawa and Mayuko Takeuchi
- Triangle by Mac Barnett and Jon Klassen
- Shapes, Shapes, Shapes by Tana Hoban
  - We're Going on a Bear Hunt by Michael Rosen
- Rosie's Walk by Pat Hutchins

### Block 5 – 1, 2, 3, 4, 5

- Witches Four by Marc Brown
- Five Little Fiends by Sarah Dyer
- Pete the Cat and his Four Groovy Buttons by Eric Litwin
- Kipper's Birthday by Mick Inkpen
- The Very Hungry Caterpillar by Eric Carle
- Stella to Earth! by Simon Puttock and Philip Hopman
- Anno's Counting Book by Mitsumasa Anno

### Block 6 – Shapes with 4 sides

- Bear in a Square by Stella Blackstone
- Square by Mac Barnett and Jon Klassen
- Shapes, Shapes, Shapes by Tana Hoban
- Night Monkey, Day Monkey by Julia Donaldson
- The Fox in the Dark by Alison Green

## Spring Term

### Block 1 – Alive in 5

- Zero is the Leaves on the Tree by Betsy Franco
- None the Number by Oliver Jeffers
- Anno's Counting Book by Mitsumasa Anno
- I Spy Numbers by Jean Marzollo
- The Ugly Five by Julia Donaldson
- Five Small Stars by Elizabeth Matterson and Madge Bugden
- Room on the Broom by Julia Donaldson

### Block 2 – Mass and capacity

- Who Sank the Boat? by Pamela Allen
- Balancing Act by Ellen Stoll Walsh
- A Beach for Albert by Eleanor May

### Block 3 – Growing 6, 7, 8

- Handa's Surprise by Eileen Browne
- Sidney the Silly Who Only Eats 6 by M.W. Penn
- Six Dinner Sid by Inga Moore
- 1, 2, 3 to the Zoo by Eric Carle
- Kipper's Toybox by Mick Inkpen
- Quack and Count by Keith Baker
- Simon Sock by Sue Hendra and Paul Linnet
- Missing Mittens by Stuart J. Murphy
- Noah's Ark
- Double Dave by Sue Hendra
- Minnie's Diner by Dayle Ann Dodds
- Two of Everything by Lily Toy Hong
- Don't Forget the Bacon! by Pat Hutchins
- The Snail and the Whale by Julia Donaldson

### Block 4 – Length, height and time

- Superworm by Julia Donaldson
- Actual Size by Steve Jenkins
- Jim and the Beanstalk by Raymond Briggs
- I Can Only Draw Worms by Will Mabbitt
- Titch by Pat Hutchins
- Tall by Jez Alborough

- Jack and the Beanstalk
- The Giraffe Who Got in a Knot by Paul Geraghty and John Bush
- Five Minutes' Peace by Jill Murphy
- Mr Wolf's Week by Colin Hawkins
- A Dark, Dark Tale by Ruth Brown
- Jasper's Beanstalk by Nick Butterworth

### Block 5 – Building 9 and 10

- Nine Naughty Kittens by Linda M. Jennings
- Ten Little Fingers and Ten Little Toes by Mem Fox
- Cockatoos by Quentin Blake
- How Do Dinosaurs Count to Ten? by Jane Yolen
- The 'Ten Little ...' series by Mike Brownlow
- Anno's Counting Book by Mitsumasa Anno
- One Duck Stuck by Phyllis Root
- Mouse Count by Ellen Stoll Walsh
- Ten in the Bed by Penny Dale

- One Gorilla by Anthony Browne
- Mr Willy-Nilly and Zoey's Dream by Ji-yun Shin
- Pete the Cat and the Missing Cupcakes by Kimberly and James Dean
- Ten Black Dots by Donald Crews
- Two of Everything by Babette Cole
- Double the Ducks by Stuart J. Murphy
- One Odd Day by Doris Fisher and Dani Sneed

### Block 6 – Explore 3-D shape

- Circle! Sphere! by Grace Lin
- Changes, Changes by Pat Hutchins
- Naughty Bus by Jan Oke
- Rapunzel
- Kitten Castle by Ellen Weiss and Mel Friedman
- Shapes, Shapes, Shapes by Tana Hoban
- Pattern Fish by Trudy Harris
- Pattern Bugs by Trudy Harris
- Busy, Busy, Busy by Haneul Ddang
- The Leopard's Drum by Jessica Souhami



**Useful links:**

Development matters Non-statutory curriculum guidance for the early years foundation stage -

[https://assets.publishing.service.gov.uk/media/64e6002a20ae890014f26cbc/DfE\\_Development\\_Matters\\_Report\\_Sep2023.pdf](https://assets.publishing.service.gov.uk/media/64e6002a20ae890014f26cbc/DfE_Development_Matters_Report_Sep2023.pdf)

Early years foundation stage statutory framework -

[https://assets.publishing.service.gov.uk/media/65aa5e42ed27ca001327b2c7/EYFS\\_statutory\\_framework\\_for\\_group\\_and\\_school\\_based\\_providers.pdf](https://assets.publishing.service.gov.uk/media/65aa5e42ed27ca001327b2c7/EYFS_statutory_framework_for_group_and_school_based_providers.pdf)

Birth to 5 Matters: <https://birthto5matters.org.uk/>