

Maths in Reception

- What do we do in school?
- What does the curriculum look like?
- Useful resources – Physical and books
- How you can help at home



The Early Years Foundation Stage curriculum

Development Matters Statements

Mathematics
• Count objects, actions and sounds.
• Subitise.
• Link the number symbol (numeral) with its cardinal number value.
• Count beyond ten.
• Compare numbers.
• Understand the 'one more than/one less than' relationship between consecutive numbers.
• Explore the composition of numbers to 10.
• Automatically recall number bonds for numbers 0-5 and some to 10.
• Select, rotate and manipulate shapes to develop spatial reasoning skills.
• Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.
• Continue, copy and create repeating patterns.
• Compare length, weight and capacity.

Early Learning Goal

Mathematics
Number
• Have a deep understanding of number to 10, including the composition of each number. • 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
• 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.

Six key areas of early mathematic learning

CARDINALITY AND COUNTING

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' 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 (composed from) two or more smaller numbers

PATTERN

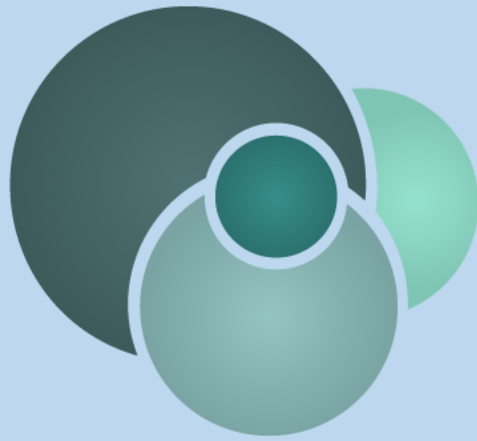
Looking for and finding patterns helps children notice and understand mathematical relationships

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



NCETM

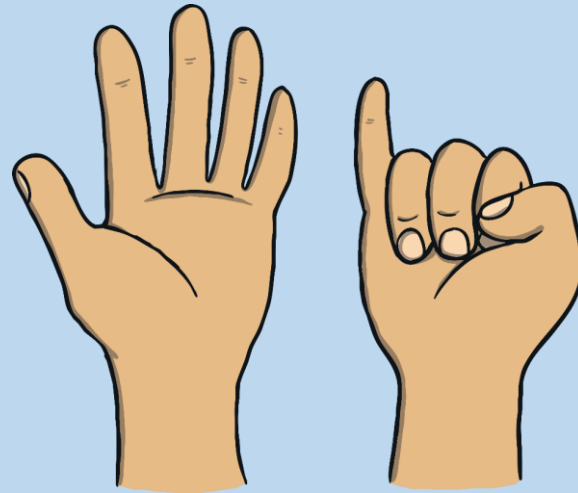
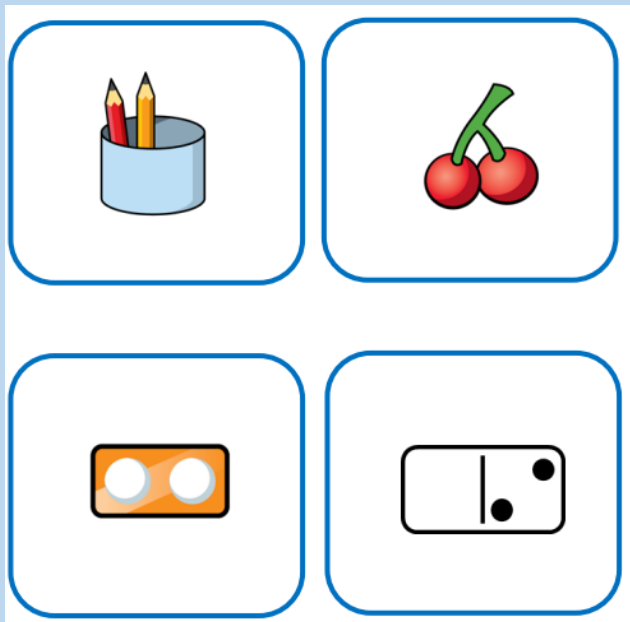
NATIONAL CENTRE FOR EXCELLENCE
IN THE TEACHING OF MATHEMATICS

At Bournebrook we use NCETM mastering number in Reception supplemented with White Rose for shape and space.

<https://www.ncetm.org.uk/in-the-classroom/early-years/>

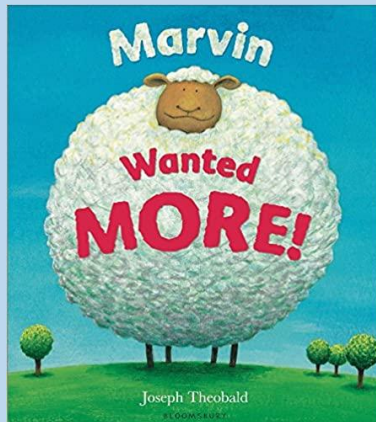
CARDINALITY AND COUNTING

The cardinal value of a number refers to the quantity of things it represents, e.g. the 'threeness' of three. When children understand the cardinality of numbers, they know what the numbers mean in terms of knowing how many things they refer to. Counting is one way of establishing how many things are in a group, because the last number you say tells you how many there are. Children enjoy learning the sequence of counting numbers long before they understand the cardinal values of the numbers. Subitising is another way of recognising how many there are, without counting.



COMPARISON

Comparing numbers involves knowing which numbers are worth more or less than each other. This depends both on understanding cardinal values of numbers and also knowing that the later counting numbers are worth more (because the next number is always one more). This understanding underpins the mental number line which children will develop later, which represents the relative value of numbers, i.e. how much bigger or smaller they are than each other.

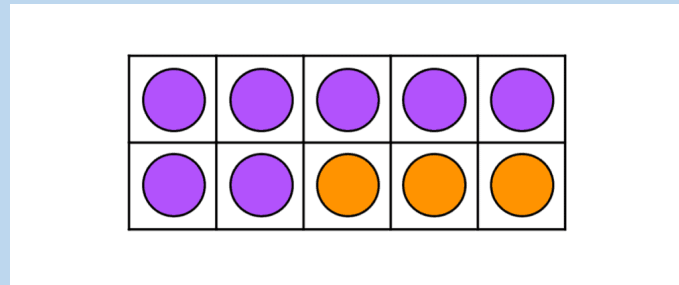


1 more, 1 less Posters: 1-10

The number is 2		
1 less	The same as	1 more
  	  	  

COMPOSITION

Knowing numbers are made up of two or more other smaller numbers involves 'part-whole' understanding. Learning to 'see' a whole number and its parts at the same time is a key development in children's number understanding. Partitioning numbers into other numbers and putting them back together again underpins understanding of addition and subtraction as inverse operations.

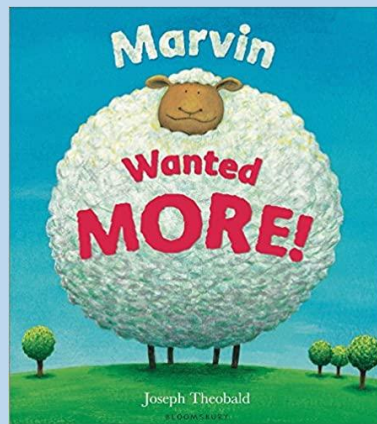
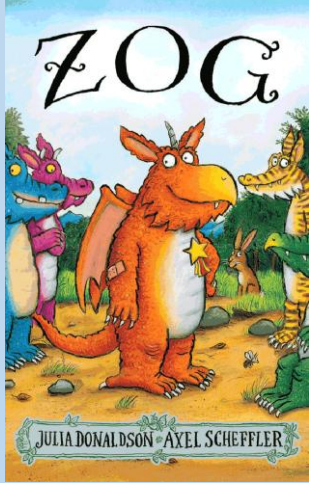


SHAPE AND SPACE

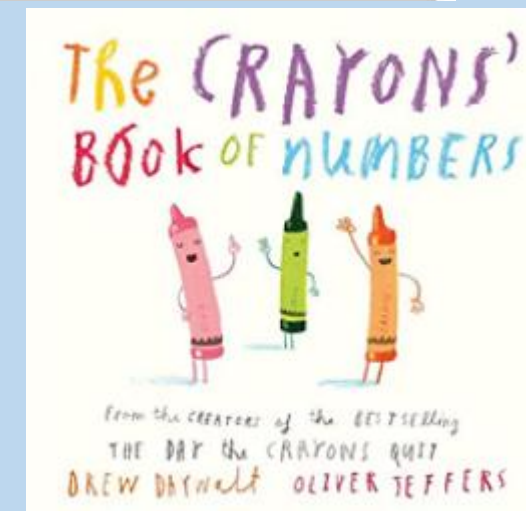
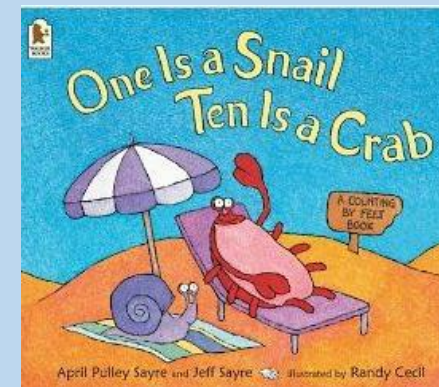
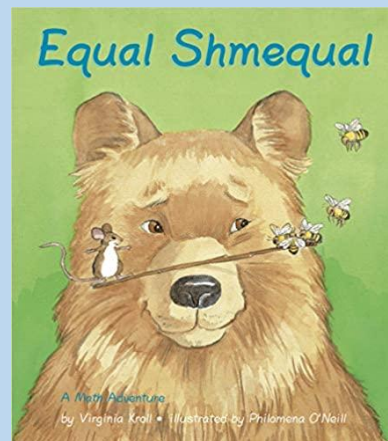
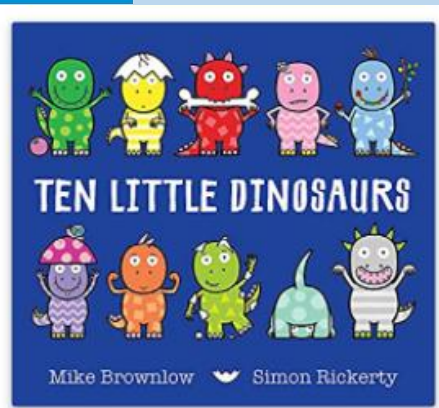
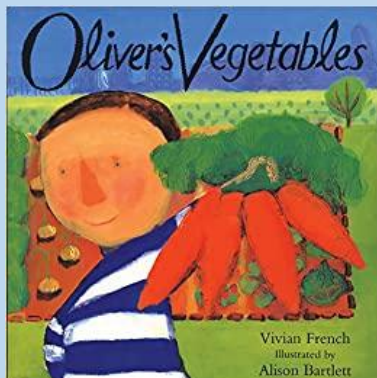
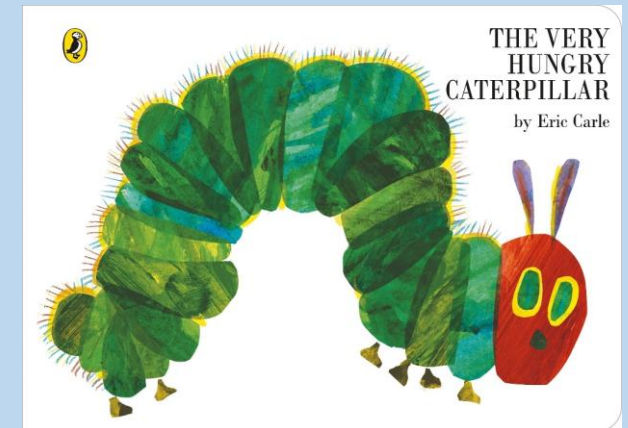
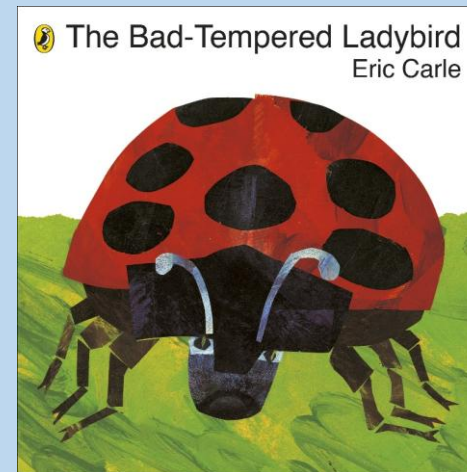
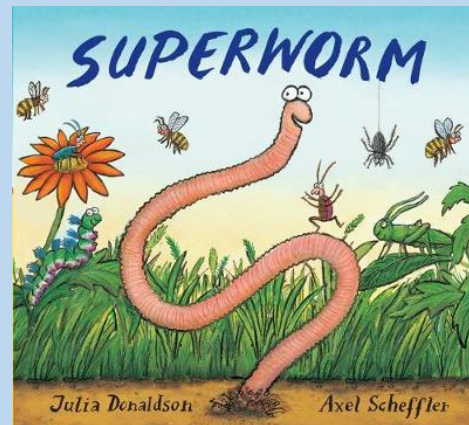
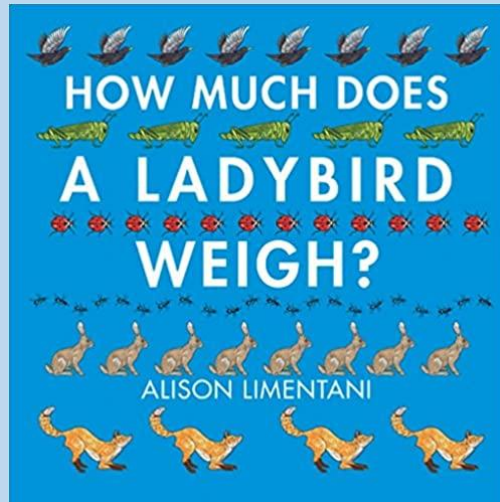
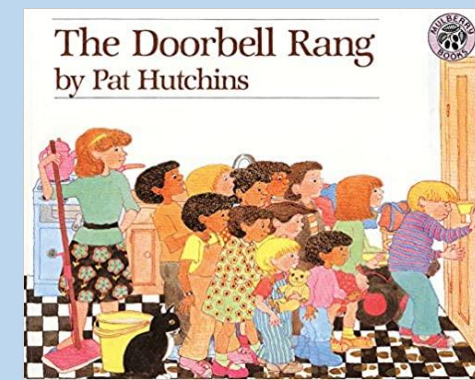
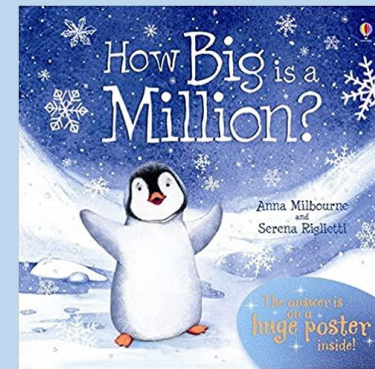
Mathematically, the areas of shape and space are about developing visualising skills and understanding relationships, such as the effects of movement and combining shapes together, rather than just knowing vocabulary. Spatial skills are important for understanding other areas of maths and children need structured experiences to ensure they develop these. Here, the focus is on actively exploring spatial relations and the properties of shapes, in order to develop mathematical thinking (rather than on shape classification, which requires prior knowledge of properties).

Children need opportunities to move both themselves and objects around, so they see things from different perspectives. This will support them in visualising how things will appear when turned around and imagining how things might fit together.





Maths books



How you can help at home



Number formation

- Model number writing and reading in different ways: Lists, tracing, birthday cards, buses, front doors, recipes, in books, phones
- Number hunts
- Write in sand, with your finger on the carpet, paint, make numbers with play dough, on a whiteboard, on paper, post it notes, on a tablet

How you can help at home?

Counting

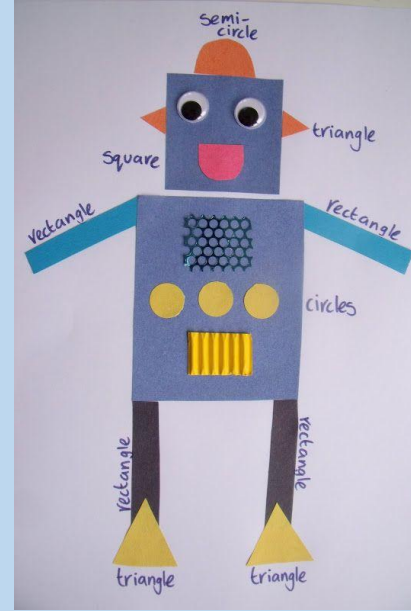
- Counting – in everyday conversation, in play, steps, brushing teeth, toys in the bath, tidying toys
- Subitising – with teddies, spoons, socks
- Ordering numbers – flashcards, post it notes, lining up toys
- Number bonds – in the car, with teddies/toys
- Addition and subtraction – include it in everyday conversation, cooking



How you can help at home?

Shape and measure

- 2D and 3D shapes – in everyday conversation, shape hunts, shape pictures
- Patterns – ordering objects and toys, clapping/body percussion
- Weight, length, capacity, time – language focus whilst cooking, in the bath, in the sandpit, pouring drinks, talking about routines



How you can help at home?

Games

- Snakes and ladders
- Board games
- Card games – snap, pairs
- Number hunts
- Hide and seek
- Bingo
- Link it to fine motor activities
- Counting songs

