



Early Years Curriculum Mathematics

An Overview of Mathematics:

Developing a strong foundation 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.

Mathematics at The Downley School (TDS):

At TDS we realise how crucial it is to deliver a strong foundation in mathematics in Early Years through the means of fun, practical, activities. We believe learning in mathematics should ignite interest and ensure positive attitudes to the subject. Children need to develop the necessary building blocks to become practical problem solvers. We take a 'Maths Mastery' approach when planning mathematics, starting pupils on their journey to make connections between the concrete, pictorial and abstract. We realise the importance of providing pupils with 'real life' problems to solve that are meaningful and matched with their interests. We encourage children to notice patterns and spot connections in their learning and urge them to talk about what they observe, not being afraid to make mistakes. Children are presented with daily maths inputs and adult led activities which ensure pupils have opportunities to learn new mathematical ideas. Pupils are also provided with the materials to explore new concepts in enhanced and continuous provision and are encouraged to practise skills by using resources which interest them.

Skills	Knowledge
<ul style="list-style-type: none"> • count objects, actions and sounds • subitise • link the number symbol (numeral) with its cardinal number value • count beyond 10 • compare numbers • understand the 'one more than or one less than' relationship between consecutive numbers • explore the composition of numbers to 10 • automatically recall number bonds for numbers 0 to 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 within it, just as numbers can • continue, copy and create repeating patterns • compare length, weight and capacity 	<ul style="list-style-type: none"> ❖ Write numbers to 10

- Development Matters Statement
- ❖ TDS Statement

Mathematics - Early Learning Goals

ELG: Number

Children at the expected level of development will:

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.

ELG: 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; 27

Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

- Development Matters Statement
- ❖ TDS Statement

Opportunities to support Mathematics in Reception

- Sing counting songs and rhymes – Provide props to aid understanding of number.
- Play games which relate to number bonds, order, addition and subtraction, such as skittles and target games.
- Share stories that relate to addition and subtraction e.g. – The Shopping Basket, Handa's Surprise.
- Incorporate mathematical components to different areas of the setting e.g. – sand, water.
- Count things that are not objects, such as hops, jumps, clicks or claps.
- Talk with children about strategies they are using e.g. to work out a solution to a simple problem by using fingers or counting aloud.
- Provide number labels for children to use in different scenarios e.g. by putting a 'Numicon' label on each bike and a corresponding number on each parking space.
- Create opportunities for children to separate objects into unequal groups as well as equal groups.
- Provide role play opportunities / real life experiences which include the handling of money – visit to the local shop.
- Encourage children to record what they have done, e.g. by drawing or tallying.
- Children vote daily for class story.
- Go on 'number hunts' and encourage pupils to look for, and identify, numerals in everyday situations / familiar environments.
- Provide number tracks and basic tens frames available to support with counting and understanding of part/whole models.
- Provide opportunities to support pupils subitise e.g. – playing with dice, dominoes, Numicon.
- Play hiding games with a number of objects in a box, under a cloth, in a tent, in a cave, etc.: "Seven went in the tent and 2 came out. I wonder how many are still in there?"
- Provide pictures that illustrate the use of shapes and patterns from a variety of cultures
- Provide opportunities for children to measure time (e.g. sand timers), weight (e.g. balance scales) and length (with standard and non-standard units).
- Vary the volume and capacity equipment in sand, water and other play areas.
- Invite pupils to help measure for a purpose e.g. finding out which teddy will fit best in a bed.
- Demonstrate language for shape, position and measures in discussions.
- Play 'descriptive' games to allow pupils to hear and use properties of shape e.g. 'Shape Shop' - "I'm looking for a thick 3D shape with six flat faces. It will slide and stack but will not roll as it does not have any curved faces".
- Play games involving children positioning themselves/objects, inside, behind, on top etc.
- Use stories to talk about position and direction e.g. - Rosie's Walk, We're going on a Bear hunt, Lost and Found
- Tell stories that relate to time / seasons / night and day / days of the week etc. e.g.- The Very Hungry Caterpillar, Peace at Last, Tree.
- Play 'shape reveal' games; revealing shapes a little at a time and at different angles, asking children to say what they think the shape is.
- Ask children to give you instructions to get to somewhere / Play 'hidden object' games where pupils have to find objects by following your instructions.
- Encourage children to use everyday words to describe routes taken and position, e.g. when following pathways / playing on the adventure playground / climbing equipment.