



## **WIDNES ACADEMY**

### **MATHEMATICS POLICY**

Recommended by	K. Highcock/A Myles				
Approved by	Local Governing Body				
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## Introduction

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the monitoring, planning, delivery and assessment of the mathematics' curriculum. The mathematics taught and the methods used reflect the recommendations outlined in the following documents:

- Development matters for Foundation Stage
- New Curriculum 2014
- Singapore Maths resources for Y1-Y5
- Early Years Foundation Stage Guidance

## Aims

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics. At Widnes Academy we aim through our teaching of Maths to:

- develop an enthusiasm for Maths through practical activities
- develop mathematical understanding through systematic teaching of learning objectives;
- encourage the effective use of Maths as a tool in a wide range of subjects and everyday life
- develop an ability in the children to express themselves fluently by giving them the correct terminology and recording systems to show what they have learnt
- develop children's ability to use and apply mathematical skills independently
- develop mathematical skills and knowledge and quick recall of basic facts in line with recommendations.

## Teaching of Maths

We use a variety of teaching styles to cater for the variety of learning styles of pupils in mathematics lessons. Our principle aim is to develop children's knowledge, skills and understanding in mathematics and how they can apply this to a range of problems during practical activities. We do this through a daily Maths lesson and also through the use of mathematics in other subjects for example data collection and graph work in Science. The children have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. The school's use of the Singapore Maths scheme for Maths planning ensures that within each year group all topics are taught and the children acquire the skills necessary for the following year. Children are taught within their year group with support and extension work given as appropriate.

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In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to work in pairs on problems or games.

### Singapore Maths

In Widnes Academy the children from Year 1 - 5 all follow the Maths No Problem scheme. The scheme is split into different chapters which focus on the different areas of mathematics. Each chapter begins by recapping what the children already know and then lesson by lesson builds on this knowledge culminating in a problem solving and application activities at the end of each chapter.

The children are taught as a whole class and the teachers will differentiate lessons according to expectations and support. In addition to this teachers will ensure that children have understood new methods before moving on, this could be through intervention or adding in an extra lesson on the topic.

To ensure that the children have understood {mastered} each topic the children will complete these reviews at a distance from learning, we recommend leaving 2 weeks before completing a review. Additionally children will be encouraged to apply their mathematical skills in their foundation lessons.

### Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use this as the basis for implementing the statutory requirements of the Programmes of Study for mathematics.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the Renewed Framework for Mathematics. Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.

The Principal and Mathematics Subject Co-ordinator are responsible for monitoring of mathematics within the school.

### Problem solving

Children experience problem solving to develop their mathematical thinking, during this time the activities may be completed in pairs or groups. The children are encouraged to try a range of strategies to find the answer.

Problem solving aims to enrich the mathematical experience of all learners.

Children are exposed to a variety of mathematical approaches at both Key Stage 1 and 2:

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- Working Systematically
- Visualising and Explaining
- Conjecturing and Generalising
- Exploring and Justifying
- Reasoning and Convincing
- Applying and Consolidation
- Thinking Strategically

### Assessment

- Assessment has two main purposes:  
assessment of learning (also known as summative assessment);  
assessment for learning (also known as formative assessment).
- Assessment of learning (AoL) – summative assessment  
Assessment of learning is any assessment that summarises where learners are at a given point in time or the children’s understanding of a particular mathematical concept – it provides a snapshot of what has been learned. In Widnes Academy, AoL is used appropriately, e.g. to provide a Teacher Assessment level and to inform any intervention or target groups which may be required.
- Assessment for learning (AfL) – formative assessment  
“Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to get to and how best to get there.”  
Assessment Reform Group, 2002
- At Widnes Academy we recognise that AfL lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AfL depends crucially on actually using the information gained.
- As part of our work with the Liverpool Project we liaise closely with other schools as part of the network and used their materials to assess pupil progress within school. It encompasses:  
Making ongoing assessments and responding appropriately to pupils during ‘day-to-day’ teaching. These ‘immediate’ responses are mainly verbal and are not normally recorded;  
The use of statutory and optional tests is still carried out at the end of each term to inform and support teacher assessment. Analysis is done at both a quantitative and qualitative level. Information gained is used to set focused curricular targets (what to teach) and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).

### Homework

All children from Reception to Year 6 will receive weekly Maths homework, this homework will focus on something that the children will have covered in class during the week.

### The Foundation Stage

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Within the Foundation stage the children work on objectives from the Development Matters Framework. The children are given a baseline assessment at the beginning of Nursery and are then taught skills to match their development band. At the end of the Foundation Stage all of the children are assessed against the Early Learning Goal (ELGs) which determine whether they are leaving the Foundation Stage at the expected level. During their time in the Foundation Stage the children will complete adult directed tasks which will teach them the skills and how to apply these within their play. In addition to this the children will be observed during their play with an emphasis on how they apply the mathematical skills they have learnt. These observations will take place across the environment not just within the maths area.

This policy will be reviewed in December 2022.

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