

# Welburn Hall Mathematics Policy

Written May 2021  
(Review May 2022)



## Welburn Hall School

This statement should be read in conjunction with other whole school planning, assessment and recording and reporting policies

## Introduction

Maths is a core subject within the National Curriculum. This policy outlines the purpose, nature and management of the teaching and learning of Maths at Welburn Hall School. Maths teaches young people how to make sense of the world around them by developing their ability to calculate, to reason and to solve problems. It enables learners to understand and appreciate relationships and patterns in both number and space in their everyday lives. By learning to communicate and apply mathematical ideas and concepts, learners become equipped with the tools to tackle a range of practical tasks and real-life problems

## Aims

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- Promote confidence and competence with numbers and the number system.
- Develop the ability to solve problems through decision-making and reasoning in a range of contexts.
- Develop a practical understanding of the ways in which information is gathered, presented and interpreted.
- Explore features of shape and space, and develop measuring skills, in a range of contexts.
- Understand the relevance and importance of mathematics in everyday life and build a bank of skills to use successfully outside lesson times.
- To provide appropriate accreditation and opportunities for life beyond school.

## Teaching and Learning Styles and Strategies

Maths is delivered at Welburn Hall as both a discrete subject and through a cross curricular approach, using either the informal, semi-formal or formal approach. It is taught using the concrete, pictorial and abstract approach. Using this method learners are introduced to an idea or a skill by acting it out with concrete resources. This is a 'hands on' component using real objects and it is the foundation for conceptual understanding. Once these experiences have been embedded, pictorial representation is introduced. In this stage, learners relate their previous understanding to diagrams and pictures of mathematical concepts. When the pictorial stage has been mastered, learners begin to represent their ideas in an abstract way using mathematical notation and symbols.

Semi-formal and formal learners also have opportunities to access accreditation. All Key stages are assessed using GL Assessments - Sandwell Early Numeracy Tasks & Functional Skills baseline assessments. Lessons and teaching are personalised to match learners' individual needs including targeted intervention, in order for them to progress effectively.

Our school uses a variety of planning and resources - selected by individual teachers to best meet needs and objectives. Our principal aim is to develop students' knowledge, skills and understanding. We do this through lessons comprising of whole-class, group directed and one to one teaching. During these lessons, we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources and scaffolds as supports. For example, number lines, number squares, counting apparatus, digit cards and Numicon. Wherever possible, we encourage students to use and apply learning to everyday situations, setting up 'real-life' scenarios and helping pupils to make links.

Although pupils are split into three areas of learning, in all classes there will be students of differing mathematical ability who have a wide variety of special educational needs. We recognise this fact and provide suitable learning opportunities for all pupils by matching challenge to ability. Individual targets are set by teachers to ensure pupils are working towards EHCP outcomes. These (termly) targets inform lesson plans and pupils are constantly reminded and guided towards activities that reinforce key skills.

Feedback related to these targets will be evident in marking and will support pupils and the wider staff team to remain focussed on the priorities of individual learners. Lesson organisation also supports the goal of matching challenge to learner. In some lessons, differentiated group or individual work is planned. In others, pupils will work on problem-solving, open ended tasks. We use teaching assistants to support pupils and ensure that work is matched to needs. These extra adults make immediate reinforcement possible for those with misconceptions or those who lack confidence. Conversely, greater challenge can be built in when pupils demonstrate secure knowledge through skilful and timely adult intervention.

### **Curriculum Planning**

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term).

Our long-term planning is balanced to ensure adequate coverage of all the mathematical areas or topics over the three terms. Teachers create medium-term mathematics plans by drawing the key objectives from their Welburn Hall Curriculum Level. This ensures learning is adapted to suit the stage the students are working at. The key objectives are taken from: P-Scales, Archimedes Mixed Aged Planning, EYFS Framework, National Curriculum and Functional Skills Targets.

For Key Stage 4 and 5 pupils, teachers follow the functional skills syllabus and specifications at Entry levels 1,2 or 3 and Levels 1 and 2. Objectives will be selected to ensure progress towards accreditation at the appropriate level.

Class teachers will create more detailed planning (in the format most suitable for the individual) to illustrate how objectives will be met - specifying activities, differentiation, assessment opportunities, resources and outcomes.

### **Cross-curricular Links**

#### **English**

Mathematics contributes to the teaching of English in our school by promoting the skills of reading, writing, speaking and listening. We encourage students to read and interpret problems in order to identify the maths involved. Students explain and present their thinking during plenary sessions. Younger children enjoy stories, songs and rhymes that rely on counting and sequencing. Older students encounter mathematical vocabulary, graphs and charts that support the understanding of nonfiction books.

#### **Science**

Knowledge of how to collect, present and interpret data contributes to the investigative process. Developing accuracy in calculation skills will support pupils in exploring results,

making comparisons and forming conclusions. Work on measure will be invaluable when taking readings, measuring length, area, mass and capacity.

### ICT

Students use and apply maths in a variety of ways when solving problems using technology. They may use IT to communicate results with appropriate mathematical symbols. They may produce graphs and tables when explaining results. Programming tasks will be developed when making repeated patterns (such as tessellations). When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships.

### Personal, Social and Health Education and Citizenship/ British Values

Planned mathematics activities that students undertake within the classroom encourage them to work together, compromise, listen and respect the contributions of others. This collaborative learning develops the personal and social skills needed through discussion of ideas and results. By modelling and actively teaching tolerance, pupils learn there may be different (but equally valid) ways of meeting goals. We present older students with real-life situations in their work on money. Managing finances is a key aspect of the college curriculum.

## **Assessment & Recording**

We assess pupil progress over different timescales. We make short-term assessments which are used to help us to adjust daily plans. These short-term assessments are closely matched to the teaching objectives. Assessments of TAs are well-used in teacher planning following informal feedback, team meetings and notes.

We make medium-term assessments to measure progress against key objectives and to help us to record accurate data and plan the next unit of work. These assessments can include observation over time, marking of workbooks and more formal testing sessions.

Results are recorded on the Pupil Assessment Tracker for each individual - keeping an up to date profile of the skills and understanding of every student. PAT is used to check pupils are making good progress and this information is also used to identify groups or individuals in need of interventions. Pupil progress meetings are held termly, allowing SLT to track progress, offer support and advice and hold teachers to account.

We make long-term assessments at key points - for example at the end of the school year. We use these assessments to review progress over time and can compare actual achievement with targets set for individuals on EHCPs. These assessments are also reported to parents, SLT and Governors. Current attainment information will be passed onto the next teacher in the summer term in order to make plans for September. We will then analyse our data in relation to similar schools and national benchmarks.

### Examinations

Examinations Following rigorous assessment and tracking, students in Key stages 4 and 5 will be entered for formal examinations in mathematics at the appropriate level. In Key Stage 4 and 5, pupils work towards Open Awards Functional Skills in Mathematics (Entry levels 1, 2, 3 and Level 1 or 2). They will complete levels appropriate to ability as they

progress through Key Stage 5. Assessment arrangements are 'on demand' and allow our students to progress as far as possible throughout the five years of our accreditation.

### **Monitoring and Review**

Monitoring the standards of student work and the quality of teaching in mathematics is the joint responsibility of the SLT and mathematics coordinator. Monitoring will include such activities as lesson observations, work scrutinies, data analysis and evaluating planning. The work of the maths coordinator also involves supporting colleagues in the teaching of maths, being informed about current developments and good practice, and providing a strategic lead and direction for the subject.

### **Reporting to Parents**

Parents will receive accurate information relating to the progress, achievements and attainment of their children in mathematics at key points in the year. Class teachers will attend the EHCP reviews in order to share this information and link it to the outcome's pupils are working towards. If the class teacher does not teach maths for a given pupil, a report from the teacher responsible will be sought in advance. The EHCP meetings are scheduled throughout the year, with interim reviews timetabled between the annual meeting dates. Parents' evenings will be used to give information and answer questions at the start of the school year and formal, written reports will be shared in July. Information can be gained from key staff (through our key worker links) at any point in time.