

Welburn Hall School Mathematics Policy

Written January 2019
(Review January 2020)



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

Aims and objectives

Mathematics teaches us how to make sense of the world around us by developing a young person's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in number, statistics, measure and shape and space in their everyday lives.

It is the policy of Welburn Hall School to:

- Recognise that literacy problems and poor organisational skills often necessitate different approaches.
- Develop and emphasize correct usage of maths vocabulary and to encourage explanation of methods of calculation.
- Fill gaps in working knowledge.
- Provide for depth as well as breadth of experience.
- Use practical apparatus wherever appropriate during the learning process.
- Reinforce and revisit topics frequently.
- Ensure all pupils achieve their potential and make good progress.
- Assess each pupil's level of attainment.

The aims of mathematics are 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.

Teaching and learning styles and strategies

Maths lessons are based on the needs of individual students and groups. Most pupils are organised into groups with those of similar need or mathematical ability. Specific work is not designated for a particular year group since ability varies from group to group and year to year. Each year the work is adapted and planned to suit the needs of the students. However, in an academic year, it is the aim to cover all areas as laid down in the National Curriculum for pupils engaged in subject-specific learning. These are: Number and Algebra; Applying and Using Mathematics; Shape, Space and Measures and Handling Data. 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.

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.

Mathematics Curriculum Planning

Mathematics is a core subject.

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 the National Curriculum, adapted to suit the stage the students are working at. We also use the Pre-National Standards objectives to inform our planning for pupils working at a lower level. For a small number of pupils, the seven areas of engagement (Rochford report) and guidance for pupils working at P scales levels will inform priorities and planning.

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.

Contribution of mathematics to teaching in other curriculum areas

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 non-fiction 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.

IT

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 and 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

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, some pupils sit modular AQA maths examinations. At Key Stage 5, pupils work towards OCR functional skills qualifications (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 three years of our college programme. From September 2018, the current key stage 4 cohort has been studying the OCR syllabus. This will allow for further progression, building skills and taking examinations from year 10 up until year 14.

Resources

There is a range of resources to support the teaching of mathematics across the school. All classrooms have scaffolds to use when employing a range of stage-appropriate strategies as well as a wide range of small apparatus. A range of software is available to support IT activities linked to maths and teachers are aware of a huge range of maths websites containing useful resources. Technology is used to practise skills, develop independence, engage pupils and increase speed of response. Larger resources, used more rarely, are stored in the upstairs staff room or the UKS3 classroom.

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.

Classteachers will attend the EHCP reviews in order to share this information and link it to the outcomes pupils are working towards. If the classteacher 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.

KEY RESPONSIBILITIES -

The Senior Leadership Team will:

- Set high expectations and monitor teaching and progress
- Encourage a whole-school approach, keeping parents, governors and all support staff well informed.
- Support the coordinator and individual teachers

Governors will:

- Be well-informed through the leadership of the Headteacher and maths coordinator – receiving an annual co-ordinator's report
- Support the staff in implementing the school's mathematics policy

The co-ordinator will:

- Lead by example, showing a thorough understanding of the subject
- Offer support to teachers in planning, teaching and assessment
- Report to the Headteacher re: quality assurance issues
- Work alongside the Headteacher to monitor and evaluate teaching and learning and progress
- Regularly review the maths policy
- Write a comprehensive, annual report on teaching and learning in mathematics (identifying areas for development)
- Identify staff development needs, plan and deliver INSET
- Manage resources for the subject

Teachers will:

- Implement effective and engaging lessons, sharing clear learning objectives with the students
- Give timely and effective feedback to pupils in order to support and accelerate the learning process
- Use a range of teaching styles to group and manage pupils and their needs
- Use the most suitable curriculum frameworks to aid planning
- Manage and deploy support staff effectively
- Use EHCP outcomes to personalise learning, secure progress and set termly targets
- Keep up to date records of pupil progress on PAT and contribute to termly progress meetings and target-setting

J Simmons (27/01/19)

