

VGS Mathematics Policy

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MATHEMATICS POLICY

Introduction

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.

This document is a statement of the aims, principles, strategies and procedures for Mathematics throughout the school. The aim of Vanguard School is to embed the principles of both *Every Child Matters* and *Excellence and enjoyment* within our Maths teaching, by supporting all children's access to excellent teaching, leading to exciting and successful learning.

Aims

- To develop a positive attitude towards the subject;
- To become confident and proficient with number, especially mentally;
- To encourage a confident approach to investigations and problem solving;
- To become proficient in the use of measures in common usage;
- To handle data with efficiency and understanding;
- To model problems with concrete apparatus;
- To develop mathematical language which children can use appropriately;
- To use ICT as a tool to enhance learning;
- To help children to become independent learners;
- To give a real-life context to learning in Maths.

Organisation

The programs of study for mathematics are set out year-by-year for key stages 3 to 5. Schools are however only required to teach the relevant programme of study by the end of the key stage. Within each key stage, we therefore have the flexibility to introduce content earlier or later than set out in the program of study. In addition, schools can introduce key stage content during an earlier key stage, if appropriate.

The expectation is that the majority of pupils will move through the programs of study at broadly the same pace. However, decisions about when to progress should be based on the security of the pupils' understanding.

The National Curriculum is at the core of the mathematics teaching at Vanguard School throughout Key Stages 3 and 4. The mathematics skills and content learnt throughout the school is in keeping with the National Curriculum aims for all pupils:

- “become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.” (DfE 2013)

We are well resourced and use concrete resources that aid in providing excellent visual, tactile, and verbal demonstrations of mathematical concepts that enable learners to discover and understand mathematics in the ways that suit them best. Each level of education within the school takes an approach suitable to the needs of the individual students but ensuring progress is maintained.

The curriculum that students at Vanguard study is not solely dictated by age as this is not always appropriate for the individual. Instead, a bespoke curriculum and pathway is taught to each child so that they are working at the level that is most suitable for their cognitive needs.

Key Stage 3

The aim of the Key Stage 3 curriculum is to give all students the exposure to the content and challenge of the National Curriculum. We teach for mastery on each topic, placing emphasis on fluency in each topic and revisiting content throughout the course of the programme. Students are regularly assessed on each topic to enable effective teaching and response tasks that suit the students' needs, placing emphasis on improving on the weaknesses in the future as opposed to finishing a topic and moving on forever. Students' progress through the scheme of work at a pace suitable for those on or above target with interventions available for those below target. We offer the flexibility for students to be able to move onto different stages of the KS3 curriculum, as the needs of the class and the students dictate, to offer them the opportunity to master the basics before moving onto the next stage.

Key Stage 4

Our students are given a high level of flexibility within the KS4 curriculum to gain the knowledge, skills and confidence in Maths to achieve reach their potential in the subject. Based on assessment and monitoring, classes are split based on ability so that a number of pathways can be taught across the cohort. Starting from Entry Level qualifications, students work their way up to Functional Skills mathematics and GCSE foundation and higher, depending on ability. A differentiated and flexible planning and teaching approach is at the heart of what enables students to reach their potential at this level.

Planning

Teachers plan from the Renewed Framework for Mathematics and the National Curriculum. Key objectives are used to inform planning concerning age-related expectations and appropriate pitch.

All teachers will use Long, Medium, and Short-term planning which is available on the school system for SLT and LMs to access when required or appropriate. Students' levels and needs are recorded within these documents to ensure planning is differentiated and the requirements of the student are understood by all.

Assessment and Record Keeping

Assessment is continuous and ongoing. Planning is annotated daily, and informal assessment data is recorded on the Staff Shared drive. Formal assessment and data is recorded on the tracking spreadsheet.

- Early Years and Primary have progress tracked by Classroom Monitor
- Summative assessment through the Accelerated Maths programme
- Middle school complete termly formative assessment
- Individual targets will be set and assessed through effective marking
- Entry Level qualifications are sat at KS4 by students not ready for the Functional Skills course
- Functional Skills qualifications are sat by students not ready for the GCSE course
- GCSE qualifications are sat by students at the end of KS4 if they are capable
- AS and A level exams are sat at the end of each year of the course

ICT

Opportunities to use I.C.T. to support teaching and learning in Maths will be planned for and used appropriately.

Home/School Link

The link between home and School is forged in a number of ways. Homework tasks are set when appropriate and the use of Microsoft Teams is for times when students are unable to attend school and ensures that students and parents have the work and support they need to continue their education without being left behind. The role of the parent is to help their child in accessing the home learning tasks and supporting them through maintaining progress with what is set.

To give more detailed outlines of the child's progress, parents will receive combined records and the opportunity to attend a parents' evening once a term, an annual report at the end of the school year and the opportunity to contact teachers on a more informal basis via email, telephone or face to face meetings when appropriate.

Inclusion

We aim to meet the needs of all, taking into account gender, ethnicity, culture, religion, language, disability, sexual orientation, age and social circumstances. Opportunities for differentiation will be planned for both more able and less able pupils at the short-term planning stage.

Special Needs

The provision for children with special needs is detailed in the SEN Policy. Central to this is the early identification, intervention and careful planning for differentiation. EHCPs will detail relevant individual targets in Maths.

Monitoring and Evaluation

Monitoring and evaluation of Mathematics teaching in the school is carried out by the Mathematics Leaders and the Head Teacher. When possible, discussion with children will take place along with scrutiny of work. Planning is moderated by the SLT team.