



Radnor House

— SEVENOAKS —

celebrating every individual

SENIOR SCHOOL.

Mathematics Curriculum

Revised and Updated Edition

September 2016

Mathematics Department

The Mathematics Department supports the aims of the school.

As a Department our aim is for students to experience mathematics as a meaningful, stimulating and worthwhile activity to support their learning not only within mathematics, but other subjects as well as the real world outside school.

The overall aim of the teaching within the Department is to enable students to:

- Develop their mathematical knowledge, using it confidently orally, written and practically.
- Read mathematics and write and talk about the subject.
- Develop a feel for number, carry out calculations and understand their results.
- Apply mathematics to everyday situations and to understand the importance of mathematics in the world around them.
- To solve problems, presenting their solutions in a clear and succinct way.
- Appreciate the place of mathematics in society, including historical and cultural influences.
- Use mathematics to communicate ideas and data.
- Apply the skills learnt in mathematics to other subjects.
- Develop an ability to reason logically, to classify, to hypothesise, to generalize and to prove.
- Appreciate pattern and relationships in mathematics.
- To acquire a foundation appropriate to their further study of mathematics and of other disciplines.

We believe that all students should have experience of all the areas of the mathematics curriculum irrespective of their ability using a variety of teaching methods.

In all our work we aim to provide the students a positive and stimulating experience.

Objectives

At the end of his/her mathematical education in this school, each pupil will be able:

- To perform basic numeracy skills.
- To perform the basic mathematical skills needed in his/her chosen career or for entry to higher or further mathematical education.
- To understand the mathematics likely to be encountered in daily adult life.
- To reason clearly and logically, and to set out a rational argument.
- To identify patterns encountered in diverse situations and to extrapolate from these.
- To approach problems systematically, choosing appropriate techniques for their solution.
- To follow logical instructions clearly expressed.
- To experience satisfaction in and enjoyment of his/her mathematical achievements.
- To obtain any formal mathematical qualifications needed for his/her chosen career.
- To obtain his/her best possible results at KS4, AS/A Level.
- In addition, we hope that pupils will acquire the logical abilities characteristic of a mathematician.

Key stage 3.

In years 7 & 8 we follow the topics listed in the New Framework. We use the 'STP Mathematics' textbooks. High priority is given to the understanding of the process skills and applications. Functional skills are integrated throughout. Within each topic there is extension material to stretch pupils.

In years 7-8, pupils develop their core skills in the four main areas of Mathematics: number, algebra, geometry and statistics. Emphasis is placed on securing a sound understanding of the principles to enable them to access more complex ideas in KS4. Close attention is paid to developing problem solving skills.

More information on the national curriculum for KS3 can be found at [https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239058/SECONDARY_national_curriculum - Mathematics.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239058/SECONDARY_national_curriculum_-_Mathematics.pdf)

Key stage 4.

Our students follow a three-year GCSE course which allows them to develop an understanding of mathematics and mathematical processes, develop the ability to reason and apply their skills and knowledge to problem solving. In year 9 students follow the foundation syllabus which strengthens their KS3 knowledge and skills and serves as a preparation for the higher tier topics in years 10 and 11.

In Y9-11, pupils further develop their logical powers of prediction and deduction. They build skills in algebra, synthesis and analysis and encounter topics such as surds, quadratic equations and vectors. All pupils are taught the Edexcel 9-1 GCSE content. Gifted Mathematicians are also able to sit the AQA Further Mathematics GCSE.

The GCSE 9-1 specification and sample resources can be found at <http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.coursematerials.html#filterQuery=category:Pearson-UK:Category%2FSpecification-and-sample-assessments>

Key stage 5.

Students of our Edexcel A level in Maths will develop an understanding of mathematics and mathematical processes, develop the ability to reason logically and construct mathematical proofs, and understand coherence and progression in mathematics and how different areas of mathematics can be connected. - See more at: <http://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2008.html#sthash.ekFkRtlU.dpuf>

Our Edexcel A level Mathematics specification enables students to follow a flexible course in maths (including Pure Mathematics, Further Mathematics and Additional Further Mathematics) to suit their individual needs and goals. - See more at: <http://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2008.html#sthash.ekFkRtlU.dpuf>

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Marking and Presentation of work.

Teachers are expected to adhere to the schools marking policy when marking books and presentation policy when guiding children as to how to present their work.

Monitoring and Evaluation.

The head of department alongside SLT, are responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, planning scrutiny, lesson observations, pupil interviews, staff discussions and evaluation of results.

Review.

The mathematics policy will be reflected in our practise. The policy will be reviewed annually.

Margarita Farrell.

Head of Mathematics

September 2016