

# MATHS

## Department Aims

Our goal within the Maths Department has been to provide students with learning opportunities which inspire and challenge. We strive to capture students' enjoyment of Mathematics inside and outside the classroom

- To set challenging targets with high expectations for all students.
- To offer a variety of approaches to teaching and learning to engage and motivate students and demand their active participation.
- To smooth the transition for students between Key Stages and ensure progression in teaching and learning throughout their time at Shirley.
- To explore enrichment opportunities outside the curriculum to enhance students' enjoyment of mathematics.

## Department Ethos

"If you able to solve the problems in MATHS, then you also able to solve the problems in your LIFE"  
(Maths is a great Challenger) - Vignesh

## Department Staff

Mrs A Gordon - Head of Department  
Mrs A Brown - Leading Mathematics Practitioner  
Mrs E Ghoshun - 2nd in charge  
Mr K McGowan - 3rd in charge  
Mr M Tarawally – Teacher of Maths  
Mr Akuffo-Kisiedu– Teacher of Maths  
Mrs J Juster - Higher Learning Teaching Assistant  
Mr P Saunders – Teacher of Maths

## Key Stage 3 Information

In Shirley High School we put students in set based on their Mathematical ability. We have three sets in Maths for Years 7 and 8.

- **Delta –High ability**
- **Theta – Middle ability**
- **Pi – Low ability**

Students in Year 7 are tested in their first Maths lesson at SHS and then they are put in sets based on their ability and their baseline test result.

Students are tested regularly, during Autumn, Spring and Summer term, and movement between sets are possible based on student progress and test results.

Students in Years 7 – 13 take part in UK Maths challenge every year. Mrs Ghoshun runs KS3 Rising Stars after school session to help Years 7 and 8 to get familiar with UKMC questions and to help them to understand how to use their mathematical knowledge to solve complex mathematical problems.

Years 7 and 8 take part in few Maths trips during the year. Year 8 students take part in free enrichment

sessions run by Further Maths organization, and Year 7 students take part in London Eye and Science Museum trip to understand use of Maths in everyday life.

Please look at the table below for our scheme of work for Years 7 and 8.

	Scheme of Work for Year 8
<p><b>Delta</b></p> <p>Autumn term : Unit 1-4</p> <p>Spring term : Unit 5-7</p> <p>Summer term : Unit 8-10</p>	<ul style="list-style-type: none"> <li>Unit 1 – Factors and powers</li> <li>Unit 2 – Working with powers</li> </ul> <p>Autumn half term assessment</p> <ul style="list-style-type: none"> <li>Unit 3 – 2D shapes and 3D solids</li> <li>Unit 4 – Real line graphs</li> </ul> <p>End of Autumn term assessment</p> <ul style="list-style-type: none"> <li>Unit 5 – Transformations</li> <li>Unit 6 – Fractions, decimals and percentage</li> </ul> <p>Spring half term assessment</p> <ul style="list-style-type: none"> <li>Unit 7 – Constructions and loci</li> </ul> <p>End of Spring term assessment</p> <ul style="list-style-type: none"> <li>Unit 8 – Probability</li> <li>Unit 9 – Scale drawings and measures</li> </ul> <p>Summer half term assessment</p> <ul style="list-style-type: none"> <li>Unit 10 – Graphs</li> </ul> <p><u>End of year assessment, two papers one calculator and one non-calculate.</u></p>
<p><b>Theta</b></p> <p>Autumn term : Unit 1-4</p> <p>Spring term : Unit 5-7</p> <p>Summer term : Unit 8-10</p>	<ul style="list-style-type: none"> <li>Unit 1 – Number</li> <li>Unit 2 – Area and volume</li> </ul> <p>Autumn half term assessment</p> <ul style="list-style-type: none"> <li>Unit 3 – Statistics, graphs and charts</li> <li>Unit 4 – Expressions and equations</li> </ul> <p>End of Autumn term assessment</p> <ul style="list-style-type: none"> <li>Unit 5 – Real- life graphs</li> <li>Unit 6 – Decimals and ratio</li> </ul> <p>Spring half term assessment</p> <ul style="list-style-type: none"> <li>Unit 7 – Lines and angles</li> </ul>

	<p style="text-align: center;">End of Spring term assessment</p> <ul style="list-style-type: none"> <li>Unit 8 – Calculating with fractions</li> <li>Unit 9 – Straight line graphs</li> </ul> <p style="text-align: center;">Summer half term assessment</p> <ul style="list-style-type: none"> <li>Unit 10 – Percentages, decimals and fractions</li> </ul> <p style="text-align: center;"><b><u>End of year assessment, two papers one calculator and one non-calculate.</u></b></p>
<p style="text-align: center;"><b>Pi</b></p> <p>Autumn term : Unit 1-4</p> <p>Spring term : Unit 5-7</p> <p>Summer term : Unit 8-10</p>	<ul style="list-style-type: none"> <li>Unit 1 – Number properties and calculations</li> <li>Unit 2 – Shapes and measures in 3D</li> </ul> <p style="text-align: center;">Autumn half term assessment</p> <ul style="list-style-type: none"> <li>Unit 3 – Statistics</li> <li>Unit 4 – Expressions and equations</li> </ul> <p style="text-align: center;">End of Autumn term assessment</p> <ul style="list-style-type: none"> <li>Unit 5 – Decimal calculations</li> <li>Unit 6 – Angles</li> </ul> <p style="text-align: center;">Spring half term assessment</p> <ul style="list-style-type: none"> <li>Unit 7 – Number properties</li> </ul> <p style="text-align: center;">End of Spring term assessment</p> <ul style="list-style-type: none"> <li>Unit 8 – Sequences</li> <li>Unit 9 – Fractions and percentages</li> </ul> <p style="text-align: center;">Summer half term assessment</p> <ul style="list-style-type: none"> <li>Unit 10 – Probability</li> </ul> <p style="text-align: center;"><b><u>End of year assessment, two papers one calculator and one non-calculate.</u></b></p>
<p><b>Scheme of Work for Year 7</b></p>	
<p style="text-align: center;"><b>Delta</b></p> <p>Autumn term : Unit 1-4</p> <p>Spring term : Unit 5-7</p> <p>Summer term : Unit 8-10</p>	<ul style="list-style-type: none"> <li>Unit 1 – Analysing and displaying data</li> <li>Unit 2 – Number skills</li> </ul> <p style="text-align: center;">Autumn half term assessment</p> <ul style="list-style-type: none"> <li>Unit 3 – Equations, functions and formula</li> <li>Unit 4 – Fractions</li> </ul> <p style="text-align: center;">End of Autumn term assessment</p> <ul style="list-style-type: none"> <li>Unit 5 – Angles and shapes</li> </ul>

	<ul style="list-style-type: none"> <li>• Unit 6 – Decimals</li> </ul> <p style="text-align: center; color: red;">Spring half term assessment</p> <ul style="list-style-type: none"> <li>• Unit 7 – Equations</li> </ul> <p style="text-align: center; color: red;">End of Spring term assessment</p> <ul style="list-style-type: none"> <li>• Unit 8 – Multiplicative reasoning</li> <li>• Unit 9 – Perimeter, area and volume</li> </ul> <p style="text-align: center; color: red;">Summer half term assessment</p> <ul style="list-style-type: none"> <li>• Unit 10 – Sequences and graphs</li> </ul> <p style="text-align: center; color: red;"><u>End of year assessment, two papers one calculator and one non-calculate.</u></p>
<p style="text-align: center;"><b>Theta</b></p> <p>Autumn term : Unit 1-3</p> <p>Spring term : Unit 4-7</p> <p>Summer term : Unit 8-10</p>	<ul style="list-style-type: none"> <li>• Unit 1 – Analysing and displaying data</li> <li>• Unit 2 – Number skills</li> </ul> <p style="text-align: center; color: red;">Autumn half term assessment</p> <ul style="list-style-type: none"> <li>• Unit 3 – Equations, functions and formula</li> <li>• Unit 4 – Decimals and measures</li> </ul> <p style="text-align: center; color: red;">End of Autumn term assessment</p> <ul style="list-style-type: none"> <li>• Unit 5 – Fractions</li> <li>• Unit 6 – Probability</li> </ul> <p style="text-align: center; color: red;">Spring half term assessment</p> <ul style="list-style-type: none"> <li>• Unit 7 – Ratio and proportions</li> </ul> <p style="text-align: center; color: red;">End of Spring term assessment</p> <ul style="list-style-type: none"> <li>• Unit 8 – Lines and graphs</li> <li>• Unit 9 – Sequences and graphs</li> </ul> <p style="text-align: center; color: red;">Summer half term assessment</p> <ul style="list-style-type: none"> <li>• Unit 10 – Transformation</li> </ul> <p style="text-align: center; color: red;"><u>End of year assessment, two papers one calculator and one non-calculate.</u></p>
<p style="text-align: center;"><b>Pi</b></p> <p>Autumn term : Unit 1-4</p>	<ul style="list-style-type: none"> <li>• Unit 1 – Analysing and displaying data</li> <li>• Unit 2 – Calculating</li> </ul> <p style="text-align: center; color: red;">Autumn half term assessment</p>

Spring term : Unit 5-7  
Summer term : Unit 8-10

- Unit 3 – Equations, functions and formula
- Unit 4 – Graphs

**End of Autumn term assessment**

- Unit 5 – Factors and multiples
- Unit 6 – Decimals and measures

**Spring half term assessment**

- Unit 7 – Angles and lines

**End of Spring term assessment**

- Unit 8 – Measuring and shapes
- Unit 9 – Fractions, decimals and percentages

**Summer half term assessment**

- Unit 10 – Transformation

**End of year assessment, two papers one calculator and one non-calculate.**

## Key Stage 4 Information

Students who study for GCSE Mathematics will be expected to:

- develop confidence and competence with the defined mathematical content
- develop fluent knowledge, skills and understanding of mathematical methods
- acquire, select and apply mathematical techniques to solve problems
- reason mathematically, make deductions and inferences, and draw conclusions
- comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context
- recall, select and apply mathematical formulae.

Exam board: Edexcel GCSE (9-1)  
Maths syllabus: 1MA1

You will be sitting 3 papers

Paper 1: 1 hour 30minutes Non-calculator

Paper 2: 1 hour 30 minutes    Calculator  
Paper 3: 1 hour 30 minutes    Calculator

**Foundation:**    **New Grades 1 – 5**  
**Higher:**        **New Grades 4 - 9**

## **Key Stage 5 Information**

There are two KS5 Mathematics options offered at Shirley High School:

### **A-level Mathematics**

Students have the opportunity to study A-level Mathematics following the new specification Pearson-EDEXCEL syllabus. The course consists of Pure Mathematics (algebra, calculus and geometry) and Mechanics and Statistics modules. There are no longer option modules in A-level Mathematics and assessment is 100% exam based, with no assessed coursework.

A-level Mathematics is a popular choice both with those wishing to pursue a STEM (Science, Technology, Engineering and Mathematics) career, and those wishing to combine it with complementary subject choices such as Business Studies and Psychology.

### **GCSE Mathematics Resit**

Students can retake the new specification GCSE Mathematics exam following the Pearson-EDEXCEL syllabus.

## **Scheme of Work**

More information to follow.