



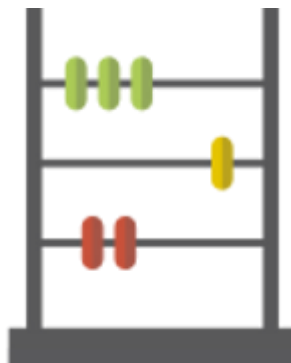
## AIM AND PURPOSE

At TTA we believe our students' learning journey through Maths is vital for four main reasons:

- 1) Introducing the fundamental concepts on which modern life, and further Maths education, are built.
- 2) Giving pupils deep conceptual understanding.
- 3) Training pupils to think strategically.
- 4) Training pupils to be resilient.

## HOW DOES THE CURRICULUM INDUCT STUDENTS INTO THE DISCIPLINE OF THE SUBJECT?

Thinking like a Mathematician involves using knowledge you know to solve problems you don't know. We train our pupils to be able to do this, first, by ensuring they have deep conceptual understanding so that they are more able to apply their knowledge to new situations. Secondly, we explicitly teach pupils to put their pens down and think, before answering questions; we model what strategic thinking looks like – 'Can I answer the question straight away? If not, what other information do I need? Where can I get that information? What else do I need?' etc. Finally, we constantly give pupils challenging questions in order to put them in the 'struggle zone', in order to build their resilience. Combining these three components facilitates real mathematical thinking.





### OVERVIEW

In Mathematics we strive to develop our students into skilled strategic problems solvers who are Maths literate and fluent in mathematical procedures. We believe in setting a high level of challenge, while sequencing the curriculum so that students keep practicing topics they have learnt before. In Y7 students first develop a firm foundation in Number and then apply this to learning core concepts in algebra, geometry and statistics.

Term	Focus	Assessment
Aut 1	<ul style="list-style-type: none"><li>Place value and number sense</li><li>Addition and Subtraction</li><li>Perimeter</li><li>Rounding &amp; Estimation (in real life situations)</li></ul>	Topic tests throughout the term.
Aut 2	<ul style="list-style-type: none"><li>Multiplication and Division</li><li>Factors and Multiples</li><li>Area of rectangles and triangles and parallelograms</li></ul>	Topic tests throughout the term.
Spr 1	<ul style="list-style-type: none"><li>Fractions as part of a whole</li><li>Fractions as a value</li><li>Fractions as an operation</li></ul>	A 1 hour assessment on all topics learnt this year.
Spr 2	<ul style="list-style-type: none"><li>Order of operations</li><li>Basic rules of algebra</li><li>Expand and factorise</li><li>Substitution</li></ul>	Topic tests throughout the term.
Sum 1	<ul style="list-style-type: none"><li>Angles</li><li>Polygons</li><li>Symmetry and reflection</li><li>Coordinates</li></ul>	Topic tests throughout the term.
Sum 2	<ul style="list-style-type: none"><li>Mean</li><li>Two way tables &amp; Venn diagrams</li></ul>	Two papers, 1 hour each, on all topics learnt this year.

### Home Learning:

- Weekly Sparx homework. This should take approximately 1 hour to complete.

### Useful resources:

- [www.sparxmaths.com](http://www.sparxmaths.com)
- [www.ttrockstars.com](http://www.ttrockstars.com)



### OVERVIEW

In Mathematics we strive to develop our students into skilled strategic problems solvers who are Maths literate and fluent in mathematical procedures. We believe in setting a high level of challenge, while sequencing the curriculum so that students keep practicing topics they have learnt before. In Y8 students will deepen their understanding in algebra, learning to solve linear equations for the first time and develop their understanding of ratio and proportional reasoning.

Term	Focus	Assessment
Aut 1	<ul style="list-style-type: none"><li>• Powers and Roots</li><li>• Prime Factorisation</li><li>• Rounding</li><li>• Fractions</li><li>• Negative numbers revision</li></ul>	Topic tests throughout the term.
Aut 2	<ul style="list-style-type: none"><li>• Linear equations</li><li>• Coordinates and basic graphs</li></ul>	Topic tests throughout the term.
Spr 1	<ul style="list-style-type: none"><li>• Units of measurement</li><li>• Angles</li><li>• Circumference</li></ul>	A 1 hour assessment on all topics learnt this year.
Spr 2	<ul style="list-style-type: none"><li>• Proportional reasoning</li><li>• Fractions, decimals and percentages</li><li>• Ratio</li></ul>	Topic tests throughout the term.
Sum 1	<ul style="list-style-type: none"><li>• Area of composite shapes</li><li>• Presenting and interpreting data</li><li>• Averages</li></ul>	Topic tests throughout the term.
Sum 2	<ul style="list-style-type: none"><li>• 3-D visualisation</li><li>• Volume</li></ul>	Two papers, 1 hour each, on all topics learnt this year.

### Home Learning:

- Weekly Sparx homework. This should take approximately 1 hour to complete.

### Useful resources:

- [www.sparxmaths.com](http://www.sparxmaths.com)
- [www.trockstars.com](http://www.trockstars.com)



### OVERVIEW

In Mathematics we strive to develop our students into skilled strategic problems solvers who are Maths literate and fluent in mathematical procedures. We believe in setting a high level of challenge, while sequencing the curriculum so that students keep practicing topics they have learnt before. In Y9 students formally follow the 3 year GCSE course following the AQA specification. They consolidate their fluency in Number and Algebra to access higher level proportional reasoning, geometry and statistics.

Term	Focus	Assessment
Aut 1	<ul style="list-style-type: none"> <li>Decimal manipulation</li> <li>Estimation &amp; Limits of Accuracy</li> <li>Related Calculations</li> <li>HCF and LCM of large numbers</li> <li>Fraction Calculations</li> </ul>	Topic tests throughout the term.
Aut 2	<ul style="list-style-type: none"> <li>Algebraic Manipulation</li> <li>Index Laws</li> <li>Expanding and Factorising</li> <li>Expressions and Substitution</li> </ul>	Topic tests throughout the term.
Spr 1	<ul style="list-style-type: none"> <li>Percentages with calculators</li> <li>Ratio (basic)</li> <li>Proportion</li> <li>Probability</li> </ul>	A 1 hour assessment on all topics learnt this year.
Spr 2	<ul style="list-style-type: none"> <li>Linear Equations</li> <li><i>Linear Simultaneous Equations (Higher only)</i></li> <li>Linear Inequalities</li> <li>Sequences</li> <li>Pythagoras + <i>Right angled Trigonometry (Higher only)</i></li> </ul>	Topic tests throughout the term.
Sum 1	<ul style="list-style-type: none"> <li>Interior and Exterior Angles</li> <li>Parallel lines</li> <li>Basic Vectors</li> <li>Basic Transformations</li> </ul>	Topic tests throughout the term.
Sum 2	<ul style="list-style-type: none"> <li>Plans and Elevations</li> <li>Circles</li> <li><i>Circle Theorems (Higher only)</i></li> <li>Surface Area</li> </ul>	Two papers, 1 hour each, on all topics learnt this year.

### Home Learning:

- Weekly Sparx homework. This should take approximately 1 hour to complete.

### Useful resources:

- [www.sparxmaths.com](http://www.sparxmaths.com)
- [www.trockstars.com](http://www.trockstars.com)



### OVERVIEW

In Mathematics we strive to develop our students into skilled strategic problems solvers who are Maths literate and fluent in mathematical procedures. We believe in setting a high level of challenge, while sequencing the curriculum so that students keep practicing topics they have learnt before. From the first half term of Y10 students follow the curriculum for either Higher or Foundation for the AQA Specification. The aim is to cover the bulk of the GCSE curriculum by the end of Y10.

Term	Focus	Assessment
Aut 1	<ul style="list-style-type: none"> <li>Rearrange formulae</li> <li>Linear Graphs</li> <li><math>y = mx + c</math></li> <li><i>Further Expanding and Factorising (Higher only)</i></li> </ul>	Topic tests throughout the term.
Aut 2	<ul style="list-style-type: none"> <li>Quadratic graphs, turning points and roots</li> <li><i>Solving Quadratics &amp; Further Simultaneous equations (Higher only)</i></li> <li><i>Quadratic inequalities (Higher only)</i></li> <li><i>Further graphs (Higher only)</i></li> <li>Compound Measures</li> </ul>	Topic tests throughout the term.
Spr 1	<ul style="list-style-type: none"> <li>Linear Simultaneous Equations</li> <li>Ratio (further)</li> <li>Probability</li> </ul>	A 90 minute assessment on all topics learnt this year.
Spr 2	<ul style="list-style-type: none"> <li>Foundation: Standard Form, Growth &amp; Decay, Simple Interest</li> <li>Higher only:               <ul style="list-style-type: none"> <li><i>Surds</i></li> <li><i>Bounds</i></li> <li><i>Recurring Decimals</i></li> </ul> </li> </ul>	Topic tests throughout the term.
Sum 1	<ul style="list-style-type: none"> <li>Statistics including               <ul style="list-style-type: none"> <li>Types of Data, Representing Data, Analysing Data</li> </ul> </li> <li><i>Higher only: Standard Form, Algebraic proportionality, Growth &amp; Decay, Simple Interest</i></li> </ul>	Topic tests throughout the term.
Sum 2	<ul style="list-style-type: none"> <li>Foundation: Revision</li> <li>Higher:               <ul style="list-style-type: none"> <li>Similar shapes</li> <li>Quadratic Sequences</li> </ul> </li> </ul>	Two papers, 90 minutes each, on all topics learnt this year.

### Home Learning:

- Weekly Sparx homework. This should take approximately 1 hour to complete.

### Useful resources:

- [www.sparxmaths.com](http://www.sparxmaths.com)
- [www.corbettmaths.com](http://www.corbettmaths.com)



### OVERVIEW

In Mathematics we strive to develop our students into skilled strategic problems solvers who are Maths literate and fluent in mathematical procedures. In Y11 each class will be following a tailored curriculum focusing on the priority topics they need to master from the AQA specification, whether Foundation or Higher. The aim is to cover all topics by the end of Spring Term to leave plenty of time for revision and preparation for exams.

Term	Focus	Assessment
Aut 1	<ul style="list-style-type: none"> <li>Foundation: Pythagoras, Trigonometry, Bearings &amp; Scale Drawings</li> <li>Higher: Algebraic proof               <ul style="list-style-type: none"> <li>Functions</li> <li>Iteration</li> </ul> </li> </ul>	Full Non Calculator exam, 90 minutes.
Aut 2	<ul style="list-style-type: none"> <li>Foundation: Transformations, Congruence</li> <li>Higher:               <ul style="list-style-type: none"> <li>Bearings</li> <li>Further Trigonometry &amp; Trigonometric graphs</li> </ul> </li> </ul>	Three exams, 90 minutes each. 1 Non calculator 2 Calculator 3 Calculator
Spr 1	<ul style="list-style-type: none"> <li>Foundation: Vectors, Similar Shapes, Constructions &amp; Loci</li> <li>Higher: Statistics (Further), Transformations of graphs, Congruence, Vectors</li> </ul>	Full Calculator exam, 90 minutes.
Spr 2	<ul style="list-style-type: none"> <li>Foundation: Revision</li> <li>Higher: Constructions &amp; Loci, Gradients (Further) and area under a graph, Kinematics</li> </ul>	Three exams, 90 minutes each. 1 Non calculator 2 Calculator 3 Calculator
Sum 1	<ul style="list-style-type: none"> <li>Revision and GCSE Examinations               <ul style="list-style-type: none"> <li>Topic master classes</li> <li>Exam practice</li> <li>Maths Booster days</li> </ul> </li> </ul>	
Sum 2	<ul style="list-style-type: none"> <li>Revision and GCSE Examinations               <ul style="list-style-type: none"> <li>Topic master classes</li> <li>Exam practice</li> <li>Maths Booster days</li> </ul> </li> </ul>	

### Home Learning:

- Weekly Sparx homework. This should take approximately 1 hour to complete.

### Useful resources:

- [www.sparxmaths.com](http://www.sparxmaths.com)
- [www.corbettmaths.com](http://www.corbettmaths.com)