| Subject: Mathematics | Year 10 | | | | |
|---|---|---|---|---|---|
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **What are we studying? (Big idea/question(s))** | | | | | |
| • Congruence<br>• Similar shapes<br>• Area & volume of similar shapes (H)<br>• Enlargement<br>• Negative scale factors (H)<br>• Trigonometry<br>• Sine & cosine rules (H) | • Equations & inequalities<br>• Represent inequalities on graphs (H)<br>• Solve quadratic equations by factorising (H)<br>• Simultaneous equations (incl quadratic (H)) | • Angles and bearings<br>• Area & circumference of a circle<br>• Circle theorems (H)<br>• Volume & surface area of a cone, sphere, cylinder<br>• Vectors<br>• Vector proofs (H) | • Ratio and fractions<br>• Currency conversions and best buys<br>• Ratio in area & volume (H)<br>• Percentage change<br>• Iteration (H)<br>• Probability | • Collecting, representing and interpreting data<br>• Limits of accuracy and bounds<br>• Surd form (H)<br>• Exact answers | • Sequences<br>• Quadratic sequences (H)<br>• Prime factors<br>• Indices<br>• Standard form<br>• Algebraic fractions (H) |
| **Why are we studying this? (skills, purpose or progression)** | | | | | |
| To develop fluent knowledge, skills and understanding of mathematical methods and concepts. | To comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context. | To reason mathematically, make deductions and inferences, and draw conclusions. | To develop fluent knowledge, skills and understanding of mathematical methods and concepts. | To acquire, select and apply mathematical techniques to solve problems.<br>To reason mathematically, make deductions and inferences, and draw conclusions. | To be able to manipulate numbers. To develop fluent knowledge, skills and understanding of mathematical methods and concepts. |
| These mathematics skills include problem solving, building resilience and independent thinking. These are crucial skills for the work place and further education. | | | | | |
| **How will this be assessed?** | | | | | |
| We assess pupils regularly through the work produced in lessons. At the end of a block of teaching, pupils will complete a small assessment to check understanding. Pupils will complete a RAG analysis, highlighting strengths and areas that need more time. This will then feed into future lessons and what we set for homework. Pupils will complete a mid-year examination after the first term and an end-of-year examination during the Summer 2 half term. | | | | | |

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| **RWCM** | Reading the question carefully and underlining key words and important information. Deciphering a block of text to decide what mathematics to use. |
| **Extra-curricular experiences** | Intermediate Maths Challenge – a national competition run by the University of Leeds. |
| **Careers Links** | Financial careers (e.g. accountancy and banking), engineering, ICT roles, statistician, economist, … |
| **Independent Learning** | Sparx Maths will be set weekly on consolidation and areas that have been highlighted from our assessments. These will be completed online (www.sparxmaths.uk) and the students will make notes in their homework books. |
| **Essential Equipment** | Basic school equipment (pen, pencil, ruler, eraser, green pen) and a **scientific calculator**. |

EXCELLENCE • PURPOSE • AMBITION