



The curriculum for this stage of students' education has been designed to:

Build depth of understanding rather than rushing through lots of topics, helping students develop secure mathematical foundations.

More specifically, it is designed to:

- Develop fluency in key mathematical skills (so students can do calculations and procedures confidently and accurately)
- Build reasoning skills (so students can explain and justify their thinking)
- Develop problem-solving ability in a range of contexts
- Deepen understanding over time rather than just covering content once
- Support a coherent progression from Year 7 through KS3, so ideas are revisited and built on in later years
- Connect mathematics across topics (for example, number, algebra, ratio, geometry, and statistics are linked rather than taught in isolation)
- Prepare students for KS4 (GCSE) by strengthening core concepts first

Half Term 1	Half Term 2	Half Term 3
Students Must know: Ratio: Students build from primary understanding of sharing, fractions, and part-whole relationships, and Year 7 work on writing, simplifying and comparing ratios. In Year 8, this develops into working with more complex ratios and solving problems where quantities are linked by a fixed relationship. Proportion & scale: Students build from primary work on multiplication, division, and scaling quantities, and Year 7 use of the unitary method. In Year 8, this extends to solving proportional reasoning problems and using scale factors to compare and adjust quantities in real contexts. Algebraic manipulation: This builds from primary number patterns and missing number problems, and Year 7 work on forming expressions, substituting values, and solving simple equations. In Year 8, students extend this by simplifying more complex expressions, expanding brackets, and solving more advanced linear equations.	Students Must know: Symmetry and Reflection: Students build on primary understanding of shapes, patterns, and simple reflections. In Year 7 they learn to reflect shapes in a line and identify symmetry, and in Year 8 this develops into more accurate reflections on coordinate grids and describing symmetry properties more formally. Coordinates and graphs: This builds from primary work on reading simple coordinates and plotting points, and Year 7 work on plotting in all four quadrants. In Year 8, students extend this to drawing straight-line graphs, interpreting gradients, and understanding linear relationships. Multiply and divide fractions: Students build on primary knowledge of fractions as parts of a whole and basic multiplication/division of whole numbers, and Year 7 work on equivalent fractions and simple fraction operations. In Year 8, this develops into multiplying and dividing more complex fractions and applying these skills in problem-solving contexts.	Students Must know: Area, volume, density: Students build from primary work on measuring area and volume of simple shapes, and Year 7 understanding of perimeter, area of rectangles, and basic 3D shapes. In Year 8, this develops into calculating area of more complex shapes, volume of prisms, and using density as a link between mass, volume, and rate. Equations and inequalities: This builds from primary "missing number" problems and Year 7 work on forming and solving simple one-step equations. In Year 8, students extend this to solving more complex linear equations and representing inequalities on number lines and in contexts. Percentages: Students build from primary understanding of fractions, decimals, and parts of a whole, and Year 7 work converting between fractions, decimals, and percentages. In Year 8, this develops into calculating percentage increase/decrease and solving more complex percentage problems such as reverse percentages.
How this will be assessed: Weekly exit tickets. One end of half term assessment	How this will be assessed: Weekly exit tickets. One end of half term assessment	How this will be assessed: Weekly exit tickets. One end of half term assessment
Half Term 4 Students Must know: Indices: Students build from primary understanding of repeated multiplication and Year 7 work using powers of numbers. In Year 8, this develops into applying the laws of indices to simplify and calculate expressions more efficiently. Standard form: This builds from primary and Year 7 work on place value, multiplying by powers of 10, and working with very large or small numbers. In Year 8, students learn to write numbers in standard form and use it to calculate and compare values efficiently. Interpret and represent data: Students build from primary skills in collecting, reading and drawing basic charts and Year 7 work using bar charts, pictograms and averages. In Year 8, this develops into interpreting more complex data sets, choosing appropriate graphs, and drawing conclusions from statistical information.	Half Term 5 Students Must know: Angles in polygons and parallel lines: Students build from primary work on measuring and recognising angles and Year 7 knowledge of basic angle rules and properties of triangles and quadrilaterals. In Year 8, this develops into using angle facts in parallel lines and calculating interior and exterior angles in polygons. Tables and probability: This builds from primary work on simple chance experiments and Year 7 understanding of probability as a fraction between 0 and 1. In Year 8, students extend this to using and interpreting two-way tables and calculating probabilities from more structured data.	Half Term 6 Students Must know: Circles: Students build from primary work recognising and drawing circles, and Year 7 knowledge of radius, diameter and basic circle properties. In Year 8, this develops into using circumference and area formulas and applying circle properties in problem-solving contexts. Graphs and charts: This builds from primary skills in reading and drawing simple graphs and Year 7 work on bar charts, line graphs and interpreting data. In Year 8, students extend this to interpreting more complex graphs, comparing data sets, and drawing conclusions from different representations. Sequences: Students build from primary work with number patterns and simple rules, and Year 7 work describing and continuing sequences. In Year 8, this develops into finding the nth term of linear sequences
How this will be assessed: Weekly exit tickets. One end of half term assessment	How this will be assessed: Weekly exit tickets.	How this will be assessed: Weekly exit tickets. One end of year 8 assessment
Embedding this knowledge can be supported at home by: Embedding this knowledge at home can be supported by regular practice and review of key skills in short, focused sessions. Parents are encouraged to use the White Rose Maths Practice Journals, which reinforce classroom learning through carefully sequenced questions, alongside the weekly completion of Sparx Maths homework, which helps students consolidate and deepen their understanding through independent practice and retrieval.		