Mathematics department

Curriculum Outline 2026-27 Year 7

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic/theme	**Number:** Place Value and Rounding **Algebra:** Introduction to Algebra	**Statistics:** Graphs and averages **Number:** Decimal Calculations	**Geometry:** Volume, Area and Perimeter **Number:** Directed Numbers	**Number:** Fractions, decimals and percentages **Geometry:** Angles	**Algebra:** Sequences	**Number:** Ratio
Key Skills	**Place Value and Rounding** -Understand the difference between factors, multiples and prime -Find HCF and LCM of two numbers -Use the four operations with -Estimate answers to complex calculations including brackets -Use the index notations for squares, cubes, square roots, cube roots -Estimate answers to complex calculations including brackets	**Graphs and Averages** -Interpret and draw dual and compound bar charts, frequency diagram, line graphs, pie charts and scatter graphs -Use two-way tables -Find the averages and range for a set of data -Compare the set of data using averages and the range -Recognise when the graph is misleading - Describe the correlation between two sets of data,	**Volume, Area and Perimeter** -Calculate the area of triangles parallelograms and trapeziums -Calculate the perimeter of compound shapes -Know the properties of 3D shapes -Calculate the surface area and volume of cube and cuboid -Convert between the measure of area and volume	**Fractions, Decimals and Percentages** -Compare and simplify fractions -Work out fractions of an amount -Use the four operations with fractions and mixed numbers - Working with equivalent fractions, decimals and percentages; simplifying and converting them -Convert between fractions, decimals and percentages -Calculating percentages including increase	**Sequences** - Work out the term of an arithmetic sequence using the term –to term rule -Work out and use the expressions for the nth term in an arithmetic sequence -Generate sequences -Recognizing geometric sequences and work out the term-to-term rule -Use positive and negative coordinates -Work out the midpoint of a line segment	**Ratio** -Share a quantity in 2 or more parts in a given ratio - Understand the relationship between ratio and proportion -Write ratios in the form of 1:n -Solve word problems involving ratios, direct and inverse proportions, using the unitary method -Draw and recognize straight line graphs, graph of y=x and y=-x

	Introduction to Algebra -Simplify expressions by collecting like terms -Construct expressions using the four operations -Derive formulae from description and substitute into formulae -Expand expressions including brackets and factorise algebraic expressions	draw the line of best fit and use to estimate values expressions **Decimal Calculations** - Round and order decimals (ascending and descending order) -Four operations with decimals	**Directed Numbers** - Ordering positive and negative numbers - Use all four operations with positive and negative numbers including written methods - Use negative numbers in real life including problems involving temperature	and decrease **Angles** -Use properties of triangles, quadrilaterals to work out unknown angles and solve problems - Work out unknown angles involving parallel lines Describe the line of rotational symmetry of quadrilateral -Work out interior and exterior angles of a polygon - Use properties of 2D shapes to solve problems		
Previous learning and Next Steps	-Calculating missing numbers -Times tables knowledge -Calculating squares and square roots -Continue a number sequence	- Multiplying whole numbers by decimals - Ordering positive decimals - Calculating averages and the mean	-Four operations -Calculating missing numbers -Name 2D shapes -Working out the area and perimeter of rectangles and squares	Knowing: - Angles on a straight line -Angles around a point -Subtracting integers from 90, 180 and 360 -Rounding decimals	- Continue a number sequence and work out any missing term -Four operations -Missing numbers -Finding half way between two	-Doubling and halving numbers -How far can a car travel in 10 seconds? -Is there a polygon whose angles add up to 3000°?

	- What is the best way to arrange 8000 seats into square blocks for a music concert? -How can you calculate all the numbers from 1 to 20 using only the number 4? Eg: 4+4 =8 or 4x4=16 - How can you compare fitness before and after a 6-week training?	- Drawing and interpreting a bar chart	-What different shapes can you make from fitting to triangles together? -How much would it cost to carpet an L -shaped room? How could you make a 4 sided dice?	- Calculate 50%, 25% and 10% of a number - Recognise 50% as ½ and ¼ as 25%	numbers -How long will it take you to count in 2s up to 1 million? -What is the half-life of a radioactive substance? -How many windows do you need for a row of	-When do two expressions have the same values?
Literacy Opportunities/VIPERS	Spelling key ***vocabulary*** correctly ***(VIPERS)*** Promoting the use of ***Mathematical language*** during lessons Developing literacy through ***discussion using the correct mathematical terminology***, reasoning and problem-solving tasks Create opportunities for explanation of learning, ***expressing mathematical conclusion*** after completing investigative task Pupils to design a ***worded question*** based on learning Comprehension activities while learning about famous mathematicians- Diversity links					
Wider reading fiction/non-fiction	Display mathematical Tier 3 vocabulary around the classroom Introduce new terminology but also consolidate previously used terms wherever possible Use key vocabulary in context so pupils begin to understand when/how to use it Comprehension activities while learning about famous mathematicians A range of fictional and non-fiction text used as comprehension tasks linked to each topic in year 7					
Numeracy Opportunities	Applied fluency and connecting different area of mathematics in a range of real-life contexts Making connections how mathematics can be used in every-day life situations – 'Window to the Wider World' Interlinking different area of mathematics					
SSMC and British Values/Window into the Wider World	Linslade pupils receive both support and challenge needed to become increasingly confident in arithmetic, fluency, reasoning and problem solving in all areas of Mathematics. The curriculum is carefully designed and sequenced to provide our learners with an aspirational bridge between lower and upper school, understanding the world and in their future careers. We build on prior knowledge so that our learners leave us having achieved fluency in this creative and highly interconnected discipline. They will be ready to start upper school and feeling confident, prepared and with a way of thinking that will provide them with a platform to become the leaders of tomorrow. During their time with us, our learners are given the opportunity to apply their ever-growing knowledge to reasoning and problem-solving questions so that they can deepen their understanding and appreciation of the beauty of mathematics. By regularly working on real-life problems, our curriculum allows learners to look through the window to the wider world and see how the maths that are taught in lessons will be applied in everyday life.					