Year 8 – MATHEMATICS Programme of Study

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number Types and Properties • Prime factors • Highest common factor/Lowest multiple **Estimation** • Rounding to significant figures • Estimating calculations **Angles** • Internal and external angles of polygons **Algebra** • Expanding brackets • Simplify expressions • Solve equations • Substitution • Rearrange formulae **Milestone Assessment: Numeracy**	**Percentages** • Percentage increase and decrease • Percentage change **Fractions** • Convert between improper and mixed fractions • Four operations **Algebra** • Solve equations • Substitution • Rearrange formulae **Scatter Graphs** • Draw scatter graphs and lines of best fit • Identify correlation **Milestone Assessment: End of term non-calculator**	**Graphs** • Horizontal and vertical • Diagonal (y = mx+c) **Sequences** • Fibonacci sequences • Linear sequences • Simple quadratic sequences **Pythagoras** • Find missing lengths **Indices** • Multiplying powers in the same base • Dividing powers in the same base • Powers of powers in the same base **Milestone Assessment: Algebra**	**Area and Volume** • Surface area of shapes made from rectangles and triangles. • Circle area • Circle circumference • Cylinder volume and surface area **Angles** • Parallel lines **Milestone Assessment: End of term calculator**	**Measures** • Convert metric units of length, mass, capacity • Convert between metric and imperial units • Draw and use conversion graphs • Speed calculations **Shape properties** • Classify quadrilaterals • Isometric drawing for 3D shapes • Nets, plans, elevations. **Similarity and Congruence** • Identify congruent shapes • Identify similar shapes • Find side lengths in similar shapes **Averages** • Mean, mode, median and range from a table **Milestone Assessment: Shape**	**Probability** • Systematic listing strategies • Sample space diagrams • Two way tables • Frequency tree diagrams **Ratio and Proportion** • Simplify ratios • Divide a quantity in a ratio • Direct proportion **Transformations** • Translation of shapes • Rotation around a point • Reflection in a mirror line • Describing transformations **Milestone Assessment: End of year calculator** Sawston Village College