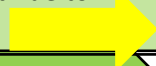


Sandbach School Maths Curriculum

Year 9 Maths Curriculum Sequence

Intent: The curriculum will develop their understanding of the 6 strands of Mathematics; make connections between number relationships, and their algebraic and graphical representations. By introducing and exploring more advanced concepts in mathematics, student's will continue to develop their ability to apply mathematical reasoning skills to problem solving contexts.



HT1 Straight line graphs	HT1 Forming & solving equations	HT1/2 Testing conjectures Three dimensional shapes	HT2 Constructions & congruency	HT3 Numbers	HT3 Using percentages/ Maths & money	HT4 Deduction	HT4 Rotation & translation	HT4 Pythagoras' theorem	HT5 Enlargement & similarity	HT5 Solving ratio & proportion problems / rates	HT6 Probability / Algebraic representation
Prior Knowledge: - Substitution - Sketching graphs	Prior Knowledge: - Solving 2 step equations also involving brackets - Substitution	Prior Knowledge: - Factors, multiples & primes - Expanding binomials - Area of 2D shapes	Prior Knowledge: - Constructing & interpreting scale drawings - Constructing triangles	Prior Knowledge: - HCF/LCM - Operations with fractions - Working with directed numbers - Standard form	Prior Knowledge: - Calculate percentage increase/decrease - Percentage change	Prior Knowledge: Angles in parallel lines	Prior Knowledge: Introduction to transformations	Prior Knowledge: Squares & square roots	Prior Knowledge: Co-ordinates Similar shapes	Prior Knowledge: - Direct proportion - Conversion graphs - Ratio problems - Converting simple units.	Prior Knowledge: Single event probability
National Curriculum Links Pupils will: Recognise, sketch & produce graphs of linear & quadratic functions of one variable. Reduce a given linear equation in two variable to the standard form $y = mx + c$ Use linear/quadratic graphs to estimate values of y for given values of x.	National Curriculum Links Pupils will: Use algebraic methods to solve linear equations in one variable. Understand & use standard mathematical formulae to change the subject.	National Curriculum Links Pupils will: Begin to reason deductively in geometry, number & algebra. Derive & apply formulae to calculate & solve problems involving : perimeter & area of triangles, parallelograms, trapezia, volume of cuboids & other prisms.	National Curriculum Links Pupils will: Begin to reason scale drawings. Describe, sketch & draw using conventional terms & notations : points, lines, parallel lines, perpendicular lines, right angles, regular polygons and other polygons.	National Curriculum Links Pupils will: Use the four operations applied to integers, decimals, proper & improper fractions, and mixed numbers, all both positive & negative. Interpret & compare numbers in standard form.	National Curriculum Links Pupils will: Interpret fractions & percentages as operators. Solve problems involving percentage change, percentage increase/decrease & original values. Also problem solving with simple interest. Develop form knowledge to interpret & solve problems including in financial Maths.	National Curriculum Links Pupils will: Apply the properties of angle at a point, angles at a point on a straight line, vertically opposite angles. Understand the relationship between parallel lines and alternate/corresponding angles.	National Curriculum Links Pupils will: Identify properties of, and describe the results of, translations, rotations and reflections applied to given figures.	National Curriculum Links Pupils will: Use Pythagoras' Theorem to solve problems involving right angled triangles. Interpret mathematical relationships both algebraically & geometrically.	National Curriculum Links Pupils will: Construct similar shapes by enlargement, with and without coordinate grids. Use scale factors, scale diagrams & maps. Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction.	National Curriculum Links Pupils will: Divide a given quantity into two parts : part or part : whole ratio ; express the division of a quantity as a ratio of fraction. Use compound units such as speed, unit pricing & density to solve problems. Change freely between related standard units.	National Curriculum Links Pupils will: Enumerate sets & unions/intersections of sets systematically, using tables, grids and Venn diagrams. Use quadratic graphs to estimate values of y for given value of x and vice versa. Understand & use the concepts & vocabulary of expressions, equations, inequalities, terms & factors.
This leads to: Simultaneous equations Gradients Non-linear graphs	This leads to: Simultaneous equations Changing the subject (2 variables)	This leads to: Congruency Find missing sides on right/non right angle triangles	This leads to: Trigonometry Find missing sides on right/non right angle triangles	This leads to: Indices & roots Surds	This leads to: Solving problems involving growth & decay Understand iterative processes	This leads to: Proof involving circle theorems.	This leads to: Describing multiple step transformations	This leads to: Length of a line segment Trigonometry	This leads to: Fractional & negative scale factors Describing multiple step transformations	This leads to: Combining ratio Solving best buy problems Ratio problems with area/volume	This leads to: Conditional probability Tree diagrams
This links to: Science & Business : Analysing results and predicting trends.	This links to: Physics : Using formulae and algebraic manipulation	This links to: Art – Understanding properties of shapes.	This links to: D&T – Interpreting scale drawings when constructing projects.	This links to: Science – Working with large/small numbers accurately.	This links to: Business studies – Various calculations involving percentages.	This links to: D&T – Accurate scale drawings.	This links to: Art – Understanding properties of shapes including tessellations	This links to: D&T – Scaled drawings when constructing	This links to: Art – Reproducing drawings using properties of enlargement	This links to: Science – Interpreting experiments and recognising proportional problems	This links to: Science – Interpret results and use to predict outcomes.