Sandbach School Maths Curriculum

Introduce:

Year 8 Maths Curriculum Sequence

<u>Intent</u>: The curriculum will enable students to continue to develop number skills; focussing on ratio, proportion and algebra through varied and frequent practice with increasingly complex problems.

HT1 Ratio & scale	HT1 Multiplicative change & multiplying & dividing fractions	HT2 Working in the cartesian plane	HT2 Representing data / tables an probability	HT3 Brackets, equations & inequalities	HT3 Sequences & indices	HT4 Fractions & percentages	HT4 Standard index form / number sense	HT5 Angles in parallel lines & polygons	HT5 Area of trapezia & circles/ Line of symmetry & reflection	HT6 The data handling cycle	HT6 Measures of location
Pre-requisite Knowledge: -Pupils have already used HCF to simplify fractions. - Pupils have worked with measures in year 7.	**Pre-requisite Knowledge:** - Pupils have previously converted simple units such as length. - Have simplified fractions.	**Pre-requisite Knowledge:** - Knowledge of all four quadrants. - Knowledge of sequences.	**Pre-requisite Knowledge:** - Have previously worked with frequency table. - Worked with simply probabilities & representations.	**Pre-requisite Knowledge:** - Equivalence from year 7	**Pre-requisite Knowledge:** - Sequences from year 7. - Previous work on powers.	**Pre-requisite Knowledge:** - Students studies aspects of FDP conversions in Y7.	**Pre-requisite Knowledge:** - Higher strand students would have been introduced to standard form in Year 7. - Rounding numbers by a given degree of accuracy.	**Pre-requisite Knowledge:** - Builds on angle notation in Y7.	**Pre-requisite Knowledge:** - Higher strand students will have met the formula for the area of a trapezium in Y7.	**Pre-requisite Knowledge:** - Knowledge of interpreting pictograms, bar charts, vertical line charts and pie charts.	**Pre-requisite Knowledge:** - Median & mean - Comparing distributions
National Curriculum Links Pupils will: - Make connections between number relationships, and their algebraic representations. - Use scale factors, scale diagrams & maps.	**National Curriculum Links Pupils will:** - Expand & formalise knowledge of ratio & proportion in working with measures. - Use the four operations to improper fractions and mixed numbers.	**National Curriculum Links Pupils will:** - Move freely between different numerical, algebraic, graphical & diagrammatic representations. - Recognise, sketch & produce graphs of linear functions of one variable.	**National Curriculum Links Pupils will:** - Record, describe & analyse the frequency of outcomes of simple probability experiments. - Generate theoretical sample spaces for single and combined events.	**National Curriculum Links Pupils will:** - Simplify & manipulate algebraic expressions to maintain equivalence by : Collecting terms, multiplying brackets, take out common factors, expand products of two or more binomials.	**National Curriculum Links Pupils will:** - Generate terms of a sequence from either term to term or position to term rules. - Recognise arithmetic/geometric sequences & find the nth term. - Begin to model situations mathematically & express results using a range of formal mathematical representations.	**National Curriculum Links Pupils will:** - Work interchangeably with terminating decimals. - Interpret percentages and percentage change as a fractions or decimals, interpret these multiplicatively. - Work with percentages greater than 100%. - Interpret fractions & percentages as operators.	**National Curriculum Links Pupils will:** - Interpret & compare numbers in standard form. - Use standard units of mass, length, time, money & other measures. - Use approximation through rounding to estimate answers & calculate possible resulting errors.	**National Curriculum Links Pupils will:** - Understand & use the relationship between parallel lines & alternate & corresponding angles. - Derive & use the sum of angles in a triangle & use it to deduce the angles sum in any polygon.	**National Curriculum Links Pupils will:** - Derive & apply formulae to calculate & solve problems involving perimeter & area of triangle, parallelograms, trapezia. - Calculate & solve problems involving : perimeters of 2D shapes, area of circles & composite shapes.	**National Curriculum Links Pupils will:** - Construct & interpret appropriate tables, charts and diagrams.	**National Curriculum Links Pupils will:** - Describe, interpret & compare observed distributions of a single variable through appropriate measures of central tendency & spread.
This leads to: - Constructions using bearings including trigonometry.	**This leads to:** - Surds - Trigonometry (non calculator methods)	**This leads to:** - Simultaneous equations. - Straight line graphs.	**This leads to:** - Tree diagrams - Conditional probability	**This leads to:** - Forming & solving equations - Simultaneous equations.	**This leads to:** - Sequences involving surds - Quadratic sequences	**This leads to:** - Finding the original value - Simples & compound interest - Growth & decay	**This leads to:** - Calculations in standard form - Fractional & negative powers	**This leads to:** - Trigonometry - Finding missing angles using circle theorems	**This leads to:** - Surface area / volume of prisms & composite shapes. - Area of similar shape	**This leads to:** - Cumulative frequency diagrams - Sampling techniques, including stratified sampling	**This leads to:** - Averages from frequency tables.
This links to: Geography – Scale drawings.	**This links to:** Physics – Change of units & other measures	**This links to:** Science – Representing & interpreting results of experiments.	**This links to:** Science – Understanding & interpreting results	**This links to:** Physics – Working with formulae	**This links to:** Science – Spotting patterns & using to predict results.	**This links to:** PE – Analysing performance. Business – Profit/loss, revenue	**This links to:** Science – Working with large numbers ie space or very small in atoms.	**This links to:** D&T – Angles are used in the planning of constructions	**This links to:** D&T – Calculating amount of materials.	**This links to:** Science – Representing & analysing results of an experiment.	**This links to:** PE – Analysing performance Business – Identifying trends