Introduce:

Sandbach School Maths Curriculum

Year 7 Maths Curriculum Sequence

Intent: The curriculum will enable students to become fluent in the fundamentals of mathematics, with a focus on number skills and introducing probability, through varied and frequent practice with increasingly complex problems

HT1 Sequences	HT1 Understand & use algebraic notation	HT1 Equality & equivalence	HT2 Place value & proportion	HT2 Fraction, Decimal & percentage equivalence	HT3 Solving problems with addition & subtraction	HT3 Solving problems with multiplication & division Fractions & percentages of amounts	HT4 Operations & equations with directed number	HT4 Addition & subtraction of fractions	HT5 Constructing, measuring & using geometric notation	HT5 Developing geometric reasoning	HT6 Developing number sense. Sets & probability Prime numbers & proof
Prior Knowledge: Applying operations to integers. Substitution into simple expressions	**Prior Knowledge:** Identify rules for one/two step functions machines	**Prior Knowledge:** Solving one/two step linear equations Understand inverse operations.	**Prior Knowledge:** Rounding to nearest 10, 100 and 1000 Finding the mean from a list of numbers.	**Prior Knowledge:** Finding equivalent FDP. Order FDP	**Prior Knowledge:** Apply all 4 operations with 1 -3 digit numbers	**Prior Knowledge:** Apply all 4 operations with 1 -3 digit numbers (using a range of techniques)	**Prior Knowledge:** Use conventional notation for the priority of operations Know how to apply inverse operations.	**Prior Knowledge:** Apply all 4 operations to simple fractions	**Prior Knowledge:** Measuring with a protractor.	**Prior Knowledge:** Using simple angle properties to find missing angles.	**Prior Knowledge:**
National Curriculum Links **Pupils will:** -Move freely between different numerical, algebraic, graphical & diagrammatic representations. -Use a calculator & other techniques to calculate results accurately & then interpret them appropriately. -Generate terms of a sequence from a term-to-term rule. -Recognise arithmetic sequences. -Recognise geometric sequences & appreciate other sequences that arise	**National Curriculum Links** **Pupils will:** -Move freely between different numerical, algebraic, graphical & diagrammatic representations. -Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships -Recognise & use relationships between operations including inverse operations. -Model situations or procedures by translating them into algebraic expressions	**National Curriculum Links** **Pupils will:** -Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships -Simplify & manipulate algebraic expressions to maintain equivalence by collecting like terms. -Use approximation through rounding to estimate answers. -Use algebraic methods to solve linear equations in one variable	**National Curriculum Links** **Pupils will:** -Consolidate their understanding of the number system and place value to include decimals -Order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, ≤, ≥ -Round numbers to an appropriate degree of accuracy -Describe, interpret and compare observed distributions of a single variable through: the median and the range	**National Curriculum Links** **Pupils will:** -Consolidate their understanding of the number system and place value to include decimals, fractions -Move freely between different numerical representations [for example, equivalent fractions, fractions and decimals] -Extend their understanding of the number system; make connections between number relationships -Compare two quantities using percentages -Work with percentages greater than 100% - Interpret pie charts	**National Curriculum Links** **Pupils will:** -Use formal written methods, applied to positive integers & decimals. -Recognise & use relationships between operations including inverse operations. -Derive & apply formulae to calculate & solving problems involving perimeter. -Construct & interpret appropriate table, charts & diagrams including frequency tables, bar charts & pictograms.	**National Curriculum Links** **Pupils will:** -Use formal written methods, applied to positive integers & decimals. -Use concepts such as factors, multiples including HCF and LCM. -Change between standard units [time,length,area, volume/capacity, mass] -Describe, interpret & compare distributions using the mean. -Use the four operations applied to integers, decimals, proper & improper fractions. -Interpret fractions & percentages as operators.	**National Curriculum Links** **Pupils will:** -Select and use appropriate calculation strategies to solve increasingly complex problems -Use the four operations, including formal written methods, applied to integers, both positive and negative -Recognise and use relationships between operations including inverse operations -Understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors	**National Curriculum Links** **Pupils will:** -Express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative	**National Curriculum Links** **Pupils will:** -Begin to reason deductively in geometry including using geometrical constructions. -Draw & measure line segments & angles in geometric figures. -Use the standard conventions for labelling sides & angles. Identify & construct triangles.	**National Curriculum Links** **Pupils will:** -Describe, sketch & draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons and other polygons that are reflectively and rotationally symmetrical. -Apply the properties of angles at a point, angles on a straight line. -Understand and use the relationship between parallel lines and alternate/corresponding angles.	**National Curriculum Links** **Pupils will:** -Select & use appropriate calculation strategies to solve increasingly complex problems. -Record, describe & analyse the frequency of outcomes of simple probability experiments. -Enumerate sets & unions/intersections of sets systematically, using tables, grids & Venn diagrams. -Make & test conjectures about patterns & relationships; look for proofs an counterexamples.
This leads to: ▪ Linking graphs to linear sequences. ▪ Find a rule for the nth term.	**This leads to:** ▪ Expanding brackets. ▪ Factorising expressions.	**This leads to:** ▪ Form and solve equations with brackets. ▪ Understand and solve simple inequalities.	**This leads to:** ▪ Rounding by significant figure. ▪ Error intervals	**This leads to:** ▪ Using the multiplier method. ▪ Finding the original. ▪ Finding repeat percentages.	**This leads to:** ▪ Written operations with decimals. ▪ Calculations with surds.	**This leads to:** ▪ Change between compound units. ▪ Algebraic fractions	**This leads to:** ▪ Fractional and negative powers.	**This leads to:** ▪ Applying 4 operations involving algebraic fractions.	**This leads to:** ▪ Apply more complex constructions techniques such as perpendicular bisectors.	**This leads to:** ▪ Angles in polygons. ▪ Bearings	**This leads to:** ▪ Dependant evens. ▪ Relative frequency.
This links to: ▪ Science – Identifying patterns	**This links to:** ▪ Science – Using formulae. ▪ Computing – Using formulae	**This links to:** ▪ Science – Problem solving ▪ Geography – Population predictions	**This links to:** ▪ Science – Interpreting results. ▪ PE – Comparing results / timing.	**This links to:** ▪ Science, business, technology, geography and PE: comparing and ordering resul	**This links to:** ▪ Science – ph scale, temperatures, kinetics. ▪ PE – Performance analysis.	**This links to:** ▪ Science – Applying formulae. ▪ PE – Timing and analysis. ▪ Geography & Tech - Scales	**This links to:** ▪ Business studies – Profit/loss and cashflow charts.	**This links to:** ▪ Science – Analysing results.	**This links to:** ▪ Art – Producing geometric shapes.	**This links to:** ▪ Geography – Bearings	**This links to:** ▪ Science – Completing fair tests.