Maths at Cox Green
Curriculum Plan

Key Stage 4
Year 9

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Number: Powers of 10, Rounding & Estimation, factors, multiples and primes **Geometry & Measure:** Metric and imperial units, area of 2D shapes, circles, compound measures. **Geometry & Measure:** Factorising, algebraic fractions, formulae. Assessment: At the end of each unit	**Number:** 4 operations in fractions, fraction and decimal equivalent, % change, % problems. **Geometry & Measure:** Angle properties of polygons, congruent shapes. **Algebra:** Interpreting straight line graphs, real life graphs Assessment: At the end of each unit	**Number:** 4 operations in decimals, using a calculator with decimals. **Statistics:** Planning a study, frequency table, statistical diagrams, averages, interpreting graphs, averages from grouped data, comparing distributions, communicating results. **Geometry & Measure:** Recapping transformations, centre of enlargements, combining transformations, maps and scale drawings, bearings. Assessment: At the end of each unit	**Algebra:** Solving equations, constructing equations, trial and improvement. **Number:** Square roots, and cube roots, laws of indices, surds, standard form. **Geometry & Measure:** Loci and constructions, Pythagoras, trigonometry. Assessment: At the end of each unit	**Algebra:** Term to term rule, position to term rule, nth term, sequences in real life, recursive sequences. **Geometry & Measure:** 3D shapes, plans and elevations, 3D symmetry, volume and surface area of prisms. **Ratio and Proportion:** Direct proportion, comparing proportion, using ratio, ratio and proportion problems, proportional reasoning. Assessment: At the end of each unit	**Statistics:** Prediction and uncertainty, mutually exclusive events, calculating probability, probability diagrams, experimental probability, comparing experimental and theoretical probability, Venn diagrams and set theory. END OF YEAR TEST Assessment: At the end of each unit

SMSC/British Values:

How it is taught:

Exploration, investigation.

Enjoyment of success / achievement / coping with short term failure + a longer term realisation of each student's strengths and weaknesses.

Encouragement of self-discipline.

Problem solving approach – seeking systematic order to solve a problem, breaking a task down into more manageable parts.

Critical thinking – skills of analysis, evaluation and reflection.

We encourage collaborative learning in the classroom – in the form of listening and learning from each other.

We explore and evaluate the use of Statistics to inform or mislead us in our current data obsessed society.

Percentage work across Key Stage 3 and 4 is clearly linked to current financial topics.

Through the work we do:

Value each contribution – insist students listen and respect each other.

Prepare lessons well to meet student needs – it they feel valued, they are more likely to value us.

Get to know each student well.

Create the atmosphere and the opportunity for them to ask questions.

Answer their questions – or students will not ask any and their education will be that much poorer.

Praise and encourage.

Build their confidence.

Have high expectations of tolerance, behaviour, work output…

We exhibit pupils work in maths classrooms - to share their good practice and celebrate achievement through creating informative displays.

Enrichment/Extra Curriculum:

- *After school sessions.*

Maths at Cox Green
Curriculum Plan

Key Stage 4
Year 10

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Foundation **Number:** Integers and place value, four operations. **Algebra:** Basics, expression and substitution, indices, expand and factorise **Geometry and Measure:** Angle facts, properties of polygons, congruent and similarity. **Higher** **Number:** Integers and place value, four operations. **Algebra:** Basics, indices, expand and factorise, algebraic fractions. **Geometry and Measure:** Angle facts, properties of polygons, congruent and similarity . Assessment: At the end of each unit	**Foundation** **Statistics:** Sampling, organising data, representing data, averages and spread **Number:** FDP, calculations with fractions. **Higher** **Statistics:** Sampling, organising data, representing data, averages and spread **Number:** FDP, calculations with fractions. Assessment: At the end of each unit.	**Foundation** **Algebra:** Use of formula and substitution, identifying algebraic notation, expand and factorising. **Geometry and Measure:** Measuring lengths and angles, area of 2D shape, transformation. **Higher** **Algebra:** Use of formula and substitution, identifying algebraic notation, expand and factorising, functions. **Geometry and Measure:** Measuring lengths and angles, area of 2D shape, transformation Assessment: At the end of each unit.	**Foundation** **Statistics:** Experimental probability, theoretical probability, mutually exclusive events. **Number:** Estimation and approximation, use of a calculator, converting units. **Higher** **Statistics:** Experimental probability, theoretical probability, mutually exclusive events **Number:** Estimation and approximation, use of a calculator, converting units. Assessment: At the end of each unit	**Foundation** **Algebra:** Solving equations, quadratic equations, simultaneous equations, inequalities **Geometry and Measure:** Circles, constructions and loci. **Higher** **Algebra:** Solving equations, quadratic equations, simultaneous equations, inequalities, iteration **Geometry and Measure:** Circles, constructions and loci, circle theorems Assessment: At the end of each unit	**Foundation** **Ratio and proportion:** Ratio, proportion, and % change. **Number:** Factors, multiple and primes, HCF & LCM, powers and roots. **Higher** **Ratio and proportion:** Ratio, proportion, and % change. **Number:** Factors, multiple and primes, HCF & LCM, powers and roots, surds. END OF YEAR TEST Assessment: At the end of each unit

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Maths at Cox Green
Curriculum Plan

Key Stage 4
Year 11

Term 1	Term 2	Term 3	Term 4	Term 5 & 6
Foundation **Algebra:** Equation of straight line graphs, kinematic graphs. **Geometry and Measure:** Nets plans and elevation, volume and surface area of shapes. **Statistics:** Frequency diagrams, averages and spread, scatter graph correlation, time series. **Higher** **Algebra:** Equation of straight line graphs, kinematic graphs, properties of quadratic functions. **Geometry and Measure:** Nets plans and elevation, volume and surface area of shapes **Statistics:** Frequency diagrams, averages and spread, scatter graph correlation, time series, cumulative frequency and box plot. Assessment: At the end of each unit.	**Foundation** **Number:** Calculations with roots and indices, exact calculations, standard form. **Algebra:** Properties of quadratic functions, sketching functions, real life graphs. **Higher** **Number:** Calculations with roots and indices, exact calculations, standard form **Algebra:** Cubic, reciprocal exponential and trigonometric functions. Real life graphs, gradient and areas under graphs, equation of a circle. **MOCK** Assessment: At the end of each unit.	**Foundation** **Geometry and Measure:** Pythagoras, trigonometry and vectors. **Statistics:** Set theory, probability diagram. **Higher** **Geometry and Measure:** Pythagoras, trigonometry and vectors + problem solving **Statistics:** Set theory, probability diagram and conditional probability. Assessment: At the end of each unit.	**Foundation** **Algebra:** Sequence rules, finding the nth term, special sequences. **Ratio and Proportion:** Compound units, direct and inverse proportion, growth and decay. **Higher** **Algebra:** Special sequences, linear and quadratic sequences. **Ratio and Proportion:** Compound units, converting between units, direct and inverse proportion, rates of change. growth and decay. Assessment: At the end of each unit.	**Exam preparation**

SMSC/British Values:

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