

Maths Year 9

Autumn Term	Spring Term	Summer Term
<p><u>Half Term 1</u></p> <p>Topic title: Powers, decimals, HCF and LCM, positive and negative, roots, rounding, reciprocals, standard form, indices and surds</p> <p>Learning hours: 27</p> <p>Key learning (knowledge and skills): Calculations, checking and rounding Indices, roots, reciprocals and hierarchy of operations Factors, multiples and primes Standard form and surds</p> <p>Assessment: Unit 1 Assessment paper</p> <p>Key vocabulary: Integer, number, digit, negative, decimal, addition, subtraction, multiplication, division, remainder, operation, estimate, power, roots, factor, multiple, primes, square, cube, even, odd, surd, rational, irrational standard form, simplify</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Averages and range, collecting data, representing data</p> <p>Learning hours: 20</p> <p>Key learning (knowledge and skills): Averages and range Representing and interpreting data Scatter graphs</p> <p>Unit/ Topic title: Fractions, percentages, ratio and proportion</p> <p>Learning hours: 24</p> <p>Key learning (knowledge and skills): Fractions Percentages Ratio and proportion</p> <p>Assessment: Unit 3 and 4 Assessment paper</p> <p>Key vocabulary: Mean, median, mode, range, average, discrete, continuous, qualitative, quantitative, data, scatter graph, line of best fit, correlation, positive, negative, sample, population, stem and leaf, frequency, table, sort, pie chart, estimate</p> <p>Addition, subtraction, multiplication, division, fractions, mixed, improper, recurring, reciprocal, integer, decimal, termination, percentage, VAT,</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Real-life and algebraic linear graphs, quadratic and cubic graphs, the equation of a circle, plus rates of change and area under graphs made from straight lines</p> <p>Learning hours: 25</p> <p>Key learning (knowledge and skills): Graphs: the basics and real-life graphs Linear graphs and coordinate geometry Quadratic, cubic and other graphs</p> <p>Assessment: Unit 6 Assessment paper</p> <p>Key vocabulary: Coordinate, axes, 3D, Pythagoras, graph, speed, distance, time, velocity, quadratic, solution, root, function, linear, circle, cubic, approximate, gradient, perpendicular, parallel, equation</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>

	<p>increase, decrease, multiplier, profit, loss, ratio, proportion, share, par</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	
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Maths Year 9		
Autumn Term	Spring Term	Summer Term
<p><u>Half Term 2</u></p> <p>Unit/ Topic title: Expressions, substituting into simple formulae, expanding and factorising, equations, sequences and inequalities, simple proof</p> <p>Learning hours: 22</p> <p>Key learning (knowledge and skills): Expression, identity, equation, formula, substitute, term, 'like' terms, index, power, negative and fractional indices, collect, substitute, expand, bracket, factor, factorise, quadratic, linear, simplify, approximate, arithmetic, geometric, function, sequence, nth term, derive</p> <p>Assessment: Unit 2 Assessment paper</p>	<p><u>Half Term 2</u></p> <p>Unit/ Topic title: Angles, polygons, parallel lines; Right-angled triangles: Pythagoras and trigonometry</p> <p>Learning hours: 16</p> <p>Key learning (knowledge and skills): Polygons, angles and parallel lines Pythagoras' Theorem and trigonometry</p> <p>Assessment: Unit 5 Assessment paper</p> <p>Key vocabulary: Quadrilateral, angle, polygon, interior, exterior, proof, tessellation, symmetry, parallel, corresponding, alternate, co-interior, vertices, edge, face, sides,</p>	<p><u>Half Term 2</u></p> <p>Unit/ Topic title: Perimeter, area and volume, plane shapes and prisms, circles, cylinders, spheres, cones; Accuracy and bounds</p> <p>Learning hours: 22</p> <p>Key learning (knowledge and skills): Perimeter, area and circles 3D forms and volume, cylinders, cones and spheres Accuracy and bounds</p> <p>Assessment: Unit 7 Assessment paper</p> <p>Key vocabulary:</p>

<p>Key vocabulary:</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	<p>Pythagoras' Theorem, sine, cosine, tan, trigonometry, opposite, hypotenuse, adjacent, ratio, elevation, depression, segment, length</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	<p>Triangle, rectangle, parallelogram, trapezium, area, perimeter, formula, length, width, prism, compound, measurement, polygon, cuboid, volume, nets, isometric, symmetry, vertices, edge, face, circle, segment, arc, sector, cylinder, circumference, radius, diameter, pi, composite, sphere, cone, capacity, hemisphere, segment, frustum, bounds, accuracy, surface area</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>
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Maths Year 10		
Autumn Term	Spring Term	Summer Term
<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Constructions: triangles, nets, plan and elevation, loci, scale drawings and bearings</p> <p>Learning hours: 16</p> <p>Key learning (knowledge and skills): Transformations Constructions, loci and bearings</p> <p>Topic title: Algebra: Solving quadratic equations and inequalities, solving simultaneous equations algebraically</p> <p>Learning hours: 14</p> <p>Key learning (knowledge and skills):</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Similarity and congruence in 2D and 3D</p> <p>Learning hours: 8</p> <p>Key learning (knowledge and skills): Similarity and congruence in 2D and 3D</p> <p>Unit/ Topic title: Sine and cosine rules, $ab \sin C$, trigonometry and Pythagoras' Theorem in 3D, trigonometric graphs, and accuracy and bounds</p> <p>Learning hours: 16</p> <p>Key learning (knowledge and skills):</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics</p> <p>Learning hours: 8</p> <p>Key learning (knowledge and skills): Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics</p> <p>Assessment: Unit 15 Assessment paper</p> <p>Key vocabulary:</p>

<p>Solving quadratic and simultaneous equations Inequalities</p> <p>Assessment: Unit 8 and 9 Assessment paper</p> <p>Key vocabulary: Rotation, reflection, translation, transformation, enlargement, scale factor, vector, centre, angle, direction, mirror line, centre of enlargement, describe, distance, congruence, similar, combinations, single, corresponding, constructions, compasses, protractor, bisector, bisect, line segment, perpendicular, loci, bearing</p> <p>Quadratic, solution, root, linear, solve, simultaneous, inequality, completing the square, factorise, rearrange, surd, function, solve, circle, sets, union, intersection -</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	<p>Graphs of trigonometric functions Further trigonometry</p> <p>Assessment: Unit 12 and 13 Assessment papers</p> <p>Key vocabulary: Congruence, side, angle, compass, construction, shape, volume, length, area, volume, scale factor, enlargement, similar, perimeter, frustum</p> <p>Axes, coordinates, sine, cosine, tan, angle, graph, transformations, side, angle, inverse, square root, 2D, 3D, diagonal, plane, cuboid</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>	<p>Sketch, estimate, quadratic, cubic, function, factorising, simultaneous equation, graphical, algebraic</p> <p>Core texts: Pearsons 9-1 Higher Textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>
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Year Group (10) and Subject Heading		
Autumn Term	Spring Term	Summer Term

Half Term 2

Unit/ Topic title: Probability

Learning hours: 10

Key learning (knowledge and skills):

Probability

Unit/ Topic title: Multiplicative reasoning: direct and inverse proportion, relating to graph form for direct, compound measures, repeated proportional change

Learning hours: 8

Key learning (knowledge and skills):

Multiplicative reasoning

Assessment:

Unit 10 and 11 Assessment papers

Key vocabulary:

Probability, mutually exclusive, conditional, tree diagrams, sample space, outcomes, theoretical, relative frequency, Venn diagram, fairness, experimental

Ration, proportion, best value, unitary, proportional change, compound measure, density, mass, volume, speed, distance, time, density, mass, volume, pressure, acceleration, velocity, inverse, direct, constant of proportionality

Core texts:

Pearsons 9-1 Higher Textbook

Key websites and media to support learning:

Mymaths, Pearsons Activelearn

Half Term 2

Unit/ Topic title: Statistics and sampling, cumulative frequency and histograms

Learning hours: 13

Key learning (knowledge and skills):

Collecting data

Cumulative frequency, box plots and histograms

Assessment:

Unit 14 Assessment paper

Key vocabulary:

Sample, population, fraction, decimal, percentage, bias, stratified sample, random, cumulative frequency, box plot, histogram, frequency density, frequency, mean, median, mode, range, lower quartile, upper quartile, interquartile range, spread, comparison, outlier

Core texts:

Pearsons 9-1 Higher Textbook

Key websites and media to support learning:

Mymaths, Pearsons Activelearn

Half Term 2

Unit/ Topic title: Circle theorems and circle geometry

Learning hours: 13

Key learning (knowledge and skills):

Circle theorems

Circle geometry

Assessment:

Unit 16 Assessment paper

Key vocabulary:

Radius, centre, tangent, circumference, diameter, gradient, perpendicular, reciprocal, coordinate, equation, substitution, chord, triangle, isosceles, angles, degrees, cyclic quadrilateral, alternate, segment, semicircle, arc, theorem

Core texts:

Pearsons 9-1 Higher Textbook

Key websites and media to support learning:

Mymaths, Pearsons Activelearn

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Maths Year 11 Higher		
Autumn Term	Spring Term	Summer Term
<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof</p> <p>Learning hours: 8</p> <p>Key learning (knowledge and skills): Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof</p> <p>Topic title: Vectors and Geometric Proof</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Revision</p> <p>Learning hours:</p>	<p><u>Half Term 1</u></p> <p>Unit/ Topic title: Revision</p> <p>Learning hours:</p>

<p>Learning hours: 10</p> <p>Key learning (knowledge and skills): Vectors and geometric proof</p> <p>Assessment: Unit 17 and 18 Assessment papers</p> <p>Key vocabulary: Vector, direction, magnitude, scalar, multiple, parallel, collinear, proof, ratio, column vector</p> <p>Core texts: Pearsons 9-1 Higher textbook</p> <p>Key websites and media to support learning: Mymaths, Pearsons Activelearn</p>		
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Year 11		
Autumn Term	Spring Term	Summer Term

Half Term 2

Unit/ Topic title: Direct and indirect proportion: using statements of proportionality, reciprocal and exponential graphs, rates of change in graphs, functions, transformations of graphs

Learning hours: 16

Key learning (knowledge and skills)

Reciprocal and exponential graphs; Gradient and area under graphs

Direct and inverse proportion

Assessment:

Unit 19 Assessment paper

Key vocabulary:

Reciprocal, linear, gradient, quadratic, exponential, functions, direct, indirect, proportion, estimate, area, rate of change, distance, time, velocity, transformations, cubic, transformation, constant of proportionality

Core texts:

Pearsons 9-1 Higher textbook

Key websites and media to support learning:

Mymaths, Pearsons Activelearn

Half Term 2

Unit/ Topic title: Revision

Learning hours:

Half Term 2

Unit/ Topic title: Revision and Exams

Learning hours: