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Unit 1: Fractions, Indices and Standard form

Topic	• Success Criteria	MathsWatch
Adding, subtracting, multiplying and dividing fractions	• Adding and subtracting fractions and mixed numbers • Multiplying and dividing fractions and mixed numbers, including fractions of an amount	Clips 73-74
The law of indices	• To know and use the law of indices with numbers and variables, including fractional • Use the laws of indices to simplify numeric and algebraic expressions	Clip 82
Standard form	• Write large numbers in standard form, as well as convert SIF to ordinary numbers • Write small numbers in standard form, as well as convert SIF to ordinary numbers • To add and subtract numbers in standard form with or without a calculator • To multiply and divide numbers in standard form with or without a calculator	Clip 83
Key Words	Mixed numbers, numerator, denominator, indices, standard form	

Unit 2: Ratio and Proportion

Topic	Success Criteria	MathsWatch
Writing ratios	• Use ratio notation • Write a ratio in its simplest form • Write ratios in the form 1:n or n:1 • Solve simple problems using ratio	Clip 38
Using ratios	• Solve simple problems using ratio • Divide a quantity into 2 or more parts in a given ratio • Solve word problems using ratio • Solve problems involving A:B and B:C	Clip 106
Ratio and measures	• Use ratios to convert between units • Write and use ratios for shapes and their enlargements	
Comparing using ratio	• Use ratios involving decimals • Compare ratios • Interchange between ratios and FDP • Solve problems and proportion problems	
Using proportion	• Use the unitary method to solve proportion problems • Solve proportion problems in words	Clip 39

	• Work out which product is better value for money	Clip 42
Proportion and graphs	• Recognise and use direct proportion on a graph • Understand the link between the unit ratio and the gradient	Clip 199
Proportion problems	• Recognise different types of proportion • Solve problems involving direct and inverse proportion	
Keywords	Ratio, converting, units, enlargement, direct proportion, inverse proportion, unitary, gradient.	

Unit 3: Metric units of Measure, Perimeter, Area and Volume

Topic	Success Criteria	MathsWatch
Units of measure	• Know standard metric units of measure for length, weight and volume • Be able to convert between standard measures (metric, time, area, volumes, mass)	Clip 200
Rectangle, parallelograms, triangles and trapezia	• Calculate perimeter and area of individual shapes • Calculate perimeter and area of composite shapes • Given the perimeter or area find a missing dimension	Clips 52 – 56 and Clip 112
Circle definitions	• Be able to identify and understand the parts of a circle: centre, circumference, diameter, radius, arc, chord, sector, segment, tangent	Clip 116
Circumference and area of a circle	• Calculate the circumference and area of a circle to a given decimal place, significant figure or in terms of pi • Given the circumference or area be able to calculate the diameter or radius • Be able to calculate the perimeter and area of a quarter or half-circle or a composite shape including part of a circle	Clip 117-118 Clip 167
Surface area and volume	• Calculate the surface area of prisms incl. cylinder • Calculate the volume of a cube or cuboid • Calculate the volume of a prism incl. cylinder • Calculate the surface area and volume of cones and pyramids • Calculate the surface area and volume of composite solids • Solve problems involving surface area and volume	Clip 115 Clip 119 Clip 200 Clips 169-171
Estimating	• Estimate lengths, areas and costs	Clip 91

	• Use inequality notation to specify simple error intervals due to truncation or rounding • apply and interpret limits of accuracy	
Key words	Circumference, radius, diameter, tangent, chord, sector, semicircles, volume, surface area, composite solids, sphere, pyramid, cone, cylinder	

Unit 4: Surds and Right-Angled Triangles

Topic	Success Criteria	Maths Watch
Pythagoras' Theorem 1	• Understand Pythagoras' theorem • Calculate the length of the Hypotenuse • Solve problems using Pythagoras' Theorem	Clip 150b
Pythagoras' theorem 2	• Calculate the length of a line segment AB • Calculate the length of a shorter side in a right-angle triangle	Clip 150c Clip 217
Trigonometry: The sine ratio	• Understand and recall the sine ratio • Use the sine ratio to calculate the length of a side and/or an angle in a right-angled triangle • Use the sine ratio to solve problems	Clip 168 Clip 201
Trigonometry: The cosine ratio	• Understand and recall the cosine ratio • Use the cosine ratio to calculate the length of a side and/or an angle in a right-angles triangle • Use the cosine ratio to solve problems	Clip 168 Clip 202
Trigonometry: The tangent ratio	• Understand and recall the tangent ratio • Use the tangent ratio to calculate the length of a side and/or an angle in a right-angled triangle	Clip 168
Surds	• Understand the difference between rational and irrational numbers • Simplify simple expressions involving surds	207
Using Trigonometry	• Solve problems using an angle of elevation or angle of depression • Use exact trigonometric values of the sine, cosine and tangent of 14 angles	Clip 173
Keywords	Hypotenuse, line segment, Sine, Cosine, Tangent, Angle of elevation, Angle of depression	

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Unit 5: Multiplicative Reasoning

Topic	Success Criteria	MathsWatch
Percentages	• Calculate a percentage profit or loss • Express a given number as a percentage of another in more complex situations • Calculate a reverse percentage • Calculate simple Calculate percentage change	Clip 88 and 89 Clip 109 Clip 110
Growth and decay	• Calculate compound interest and depreciation	Clip 164
Compound measures	• Change freely between compond units of measure: speed, rates of pay, density and pressure • Distance versus Time graphs • Speed versus Time graphs • Calculating Distance, Speed and Time • Calculate with other compound measures such as rates of pay; Density, Mass and Volume and Pressure, Force and Area	Clip 142 Clip 143 Clip 216a
Direct and inverse proportion	• Use ratio and proportion in measures and conversions • Use direct and inverse proportion	Clip 199
Key Words	Profit, loss, percentage increase, percentage decrease, repeated percentage change, growth, decay, compound interest, appreciate, depreciate, acceleration, metric, speed, distance, time	

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Unit 6: Probability

Topic	Success Criteria	Maths Watch
Calculating probability	• Calculate simple probabilities from equally likely events • Understand mutually exclusive and exhaustive outcomes	Clip 59
Two events	• Use two-way tables to record the outcomes from two events • Work out the probabilities from sample space diagrams	Clip 204
Experimental probability	• Apply the ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments • Find and interpret probabilities based on experimental data • Make predictions from experimental data	Clip 125
Venn diagrams	• Use Venn diagrams to work out probabilities • Understand the language of sets and Venn diagrams	Clip 127 Clip 185
Tree diagrams	• Use frequency trees and tree diagrams • Work out probabilities using tree diagrams • Understand independent events	Clip 57 Clip 151 Clip 175
More tree diagrams	• Understand when events are not independent • Solve probability problems involving events that are not independent	
Keywords	• Equally likely, mutually exclusive, exhaustive outcomes, experimental data, Venn diagrams, sets, independent events, predictions, two-way table	

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Unit 7: Review Straight Line Graphs, Quadratic Equations and Graphs and Sequences

Topic	Success Criteria	Maths Watch
Generating straight line graphs	• Generate and plot coordinates from a rule or from a table of values • Plot graphs with equations y=mx + c	Clip 96 Clip 159
Equation of a line	• Find the gradient of a line • Understand that parallel lines have the same gradient • Understand what m and c represent in y=mx+c • Find the equations of straight-line graphs • Find the equation of a line through two points • Find the equations of lines parallel or to a given line	Clip 97 Clip 159b Clip 208
Expanding double brackets	• Multiply double brackets • Recognise quadratic expressions • Square single brackets	Clip 134
Factorising quadratic expressions	• Factorise quadratic expressions, including difference of two squares;	Clip 157
Solve quadratic expressions	• Use factorising to solve quadratic expressions	
Plotting quadratic graphs	• Plot graphs of quadratic functions • Recognise a quadratic function • Use quadratic graphs to solve problems	Clip 98
Using quadratic graphs	• Solve quadratic equations $ax^2 + bx + c = 0$ using a graph • Solve quadratic equations $ax^2 + bx + c = k$ using a graph	Clip 160
Keywords	Quadratic, expression, function, algebraically, factorise	

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Unit 8: Transformations

Topic	Success Criteria	Maths Watch
Translations	• Translate a shape on a co-ordinate grid • Translate a shape using a vector • Use a column vector to describe a translation	Clip 50 Clip 174
Reflections	• Draw a reflection in a mirror line • Draw a reflection on a coordinate grid • Describe reflections on a coordinate grid	Clip 48
Rotations	• Rotate a shape on a coordinate grid about a centre of rotation. • Describe a rotation	Clip 49
Enlargement	• Enlarge a shape by a scale factor • Enlarge a shape using a centre of enlargement • Enlarge shapes by fractional and negative scale factors about a centre of enlargement • Identify the scale factor of an enlargement • Find the centre of enlargement • Describe an enlargement	Clip 148 Clip 181a Clip 182
Combining Transformations	• Transform shapes using more than one transformation • Describe combined transformations of shapes on a grid	Clip 182

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Unit 9: Congruence, Similarity and Vectors

Topic	Success Criteria	Maths Watch
Similarity and enlargement	• Understand similarity • Use similarity to solve angle problems • Find the scale factor of an enlargement • Use similarity to solve problems	Clip 144 Clip 200
Congruence 1	• Recognise congruent shapes • Use congruence to work out unknown angles • Use congruence to work out unknown sides • Use the basic congruence criteria for trianlges: SSS, SAS, ASA and RHS	Clip 12b Clip 166
Vectors	• Add and subtract vectors • Multiplications of vectors by a scalar • Diagrammatic and column representations of vecors •	Clip 174 Clip 219
Keywords	Similarity, scale factor, enlargement congruent/congruence, vector	

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Unit 10: Further Algebra

Topic	Success Criteria	Maths Watch
Solve simultaneous equations	• Solve simultaneous equations algebraically • Solve simultaneous equations graphically	Clip 162 Clip 140
Graphs of cubic and reciprocal functions	• Draw and interpret graphs of simple cubic functions • Draw and interpret the graphs of $y = \frac{1}{x}$	Clip 161
Non-linear graphs	• Draw and interpret non-linear graphs to solve problems	
Rearrange formulae	• Change the subject of a formula	Clips 136 and190
Proof	• Identify expressions, equations, formulae and identities • Prove results using algebra	Clip 193
Keywords	Cubic, function/s, non-linear, simultaneous, algebraically, expressions, equations, formulae, identities. graphically	

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Unit 11: Construction, Loci and Bearings

Topic	Success criteria	Maths Watch
3D Solids	• Recognise 3D shapes and their properties and be able to describe using correct mathematical words • Understand the 2D shapes that make up 3D objects	Clip 43
Plans and elevations	• Identify and sketch planes of symmetry of 3D shapes • Understand and draw plans and elevations of 3D shapes • Sketch 3D shapes based on their plans and elevations	Clip 51
Accurate drawings 1	• Make accurate drawings of triangles using a ruler, protractor and compass. • Identify SSS, ASA, SAS and RHS triangles as unique from a given description • Identify congruent triangles	Clip 166
Scale drawings and maps	• Draw diagrams to scale • Correctly interpret scales in real-life contexts • Use scales on maps and diagrams to work out lengths and distances • Know when to use exact measurements and estimations on scale drawings and maps • Draw lengths and distances correctly on given scale drawings	
Accurate drawings 2	• Accurately draw angles and 2D shapes using a ruler, protractor and compass • Construct a polygon inside a circle • Recognise nets and make accurate drawings of nets of common 3D objects	
Constructions	• Draw accurately using rulers and compasses • Bisect angles and lines using rulers and compasses	Clip 146a Clip 146b
Loci and regions	• Draw loci for the path of points that follow a given rule • Identify regions bounded by loci to solve practical problems	Clip 165
Bearings	• Find and use three-figure bearings • Use angles at parallel lines to work out bearings • Solve problems involving bearings and scale diagrams	Clip 124
Keywords	Cube, cuboid, triangular prism, prism, cone, pyramid, sphere, symmetry, plans, elevations, scale, congruent, bisect, regions, loci, bearings, protractor, pair of compasses	

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