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Unit 1: Number and Calculations

Topic	Success Criteria	MATHS WATCH CLIP
Time	• Convert hours and minutes into decimal format	Clip N7b
The Four Operations	• Add and subtract positive and negative numbers mentally and using written methods • Multiply and divide positive and negative numbers mentally and using written methods and use written division methods in cases where the answer has up to two decimal places • Solve multi-step problems involving addition, subtraction and/or multiplication and division • Understand and use negative numbers when working with temperature and other contexts	Clip 17 Clip 18 Clip 68a Clip 19 Clip 20 Clip 68b Clip 21 Clip 23
BIDMAS	• Know that addition and subtraction have equal priority • Know that multiplication and division have equal priority • Know that multiplication and division take priority over addition and subtraction • Use order of operations including brackets and indices	Clip 75
Prime Numbers/HCF/LCM	• Recall prime numbers up to 30 or 50 • Know the meaning of a common multiple (factor) of two numbers • Identify common multiples (factors) of two numbers • Know the meaning of 'highest common factor' and 'lowest common multiple' and use these to solve problems, using prime factor decomposition	Clip 28 Clip 79 Clip 80 Clip 78
Powers and Roots	• Know the first 12 or 15 square numbers • Know the first 5 cube numbers and 10^3 • Recognise real roots (square, cube and higher) • Estimate powers and roots of any given positive number	Clip 81 Clip 82
Key words	Calculate, Celsius, cube, Fahrenheit, real, truncate	

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Unit 2: Algebraic Simplifying, Manipulation and Sequences

Topic	Success Criteria	MATHS WATCH CLIP
Concepts and vocabulary	• Know the meaning of expression, term, formula, equation, function • Know the basic algebraic notation (rules of algebra) • **Identify expressions, equations, formulae and identities**	
Simplifying terms	• Simplify an expression by collecting like terms • Simplify and expression involving multiplication and division	Clip 33 Clip 34 Clip 35
Indices	• Know and use the laws of indices • **Calculate with negative indices**	Clip 29 Clip 131 Clip 82 Clip 188 Clip 154
Manipulating Algebra	• Expand an expression involving a single bracket • Factorise an expression into a single bracket • Expand an expression involving double brackets • **Factorise an expression into double brackets**	Clip 134a Clip 94 Clip 134b Clip 93
Substitution	• Substitute positive numbers into expressions and formulae • Substitute negative numbers into expressions and formulae • Use science and maths formulae for substitution – including distance, speed and time and rates of pay	Clip 95
Generating Sequences	• Drawing patterns for sequences • Continue sequences and find missing terms • Continue special sequences (inc. triangular, square and cube numbers, Fibonacci and quadratic) • Generate a sequence from the term-to-term rule	Clip 37
Nth Term	• Generate a sequence from the nth term • Find the nth term of a linear sequence • Generate a quadratic sequence	Clip 102 Clip 103
Key words	Even, Identify, notation, odd, prove, sequence	

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Unit 3: Calculating with Fractions and Decimals, Rounding and FDP

Topic	Success Criteria	MATHS WATCH CLIP
Fractions	• Change between mixed numbers and top heavy fractions • Add and subtract fractions when the denominator is the same and/or different and mixed numbers • Multiply and divide fractions and mixed numbers • Find fractions of amounts	Clip 71a Clip 71b Clip 73 Clip 74 Clip 72
Decimals	• Add and subtract decimal numbers • Multiply numbers by 10, 100, 1000 • Multiply and divide decimals	Clip 30,66,67
Rounding	• Round to the n. whole number, 10, 100 and 1000 • Round numbers to a specified number of dp • Round numbers to a specified number of significant figures for no. larger than 1 and smaller than 1. • **Error intervals and truncating**	Clip 155
Estimation	• Estimate answers to calculations by rounding to 1 significant figure. • Check calculations using approximation and estimation	Clip 90 Clip 91
Standard form	• Write big and small numbers in SF • Multiply and divide numbers in standard form. Add and subtract numbers in standard form.	Clip 83
Ordering fractions, decimals and Percentages	• Convert between fractions, decimals and percentages • Use conversions to order fractions, decimals and percentages • **Change recurring decimals into fractions**	Clip 84 Clip 85 Clip 177
Key words	Standard Form, Truncate, Estimate, Recurring	

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Unit 4: Calculating with Percentages

Topic	Success Criteria	MATHS WATCH CLIP
Calculating Percentages/Reverse/ Increase/Decrease	• Find a percentage of an amount without a calculator • Use calculators to find a percentage of an amount • Increase/decrease an amount by a percentage • Introduce multipliers • Increase/decrease and amount using multipliers • Calculate the percentage change in a given situation, including percentage increase / decrease and reverse percentages	Clip 40 Clip 86 Clip 87 Clip 108 Clip 109 Clip 110
Compound interest/depreciation	• **Be able to calculate compound interest and depreciation** • **Be able to answer real world problems involving compound interest and depreciation.**	Clip 164
Key words	Multipliers, Percentage Increase, Percentage Decrease, Compound interest, original, recurring, simple interest	

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Unit 5: 2D and 3D Shapes

Topic	Success Criteria	MATHS WATCH CLIP
Names of Shapes	• Know the names of 2D shapes and be able to identify them from their properties	Clip 43
Properties of 3D Solids	• Know the notation used for angles, equal lengths and parallel lines • Know the number of faces, edges and vertices for solids • Know the names and properties of solids (cubes, cuboids, prisms, cylinders, pyramids, cones and spheres)	Clip 43
Plans and Elevations	• Draw plans and elevations of solids	Clip 51
Area and Perimeter	• Calculate the area and perimeter of rectangles, triangles, parallelograms and trapezia • Calculate the area and perimeter of compound shapes made from rectangles and triangles	Clip 52 - 56 Clip 114-115 Clip 119 Clip 169-170
Circles	• Be able to name and label parts of a circle • Know the formulae for calculating the circumference and area of a circle • Calculate the circumference and area of a circle when given diameter or radius • Find the area and perimeter of parts of circles	Clip 116 Clip 117 Clip 118 Clip 167
Volume and Surface area	• Calculate the volume of cuboids and prisms • Calculate surface area of cuboids and other prisms • **Volume and Surface area of cylinders, spheres, pyramids and cones**	
Key words	chord, cone, cuboid, cylinder, elevation, kite, parallelogram, properties, pyramid, rhombus, sector, segment, sphere, tangent, trapezia, trapezium	

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Unit 6: Ratio and Proportion

Topic	Success Criteria	MATHS WATCH CLIP
Simplifying ratios	• Use ratio notation • Simplify 2 and 3 part ratios by cancelling common factors • Simplify ratios when units are different and convert between units • Find ratios in the form of 1:n and n:1	Clip 38
Combining Ratios	• **Problems involving A:B and B:C**	Clip 38
Sharing using a ratio	• Divide a quantity into a ratio	Clip 106
Proportion problems	• Use ratio to solve real life problems (e.g. recipes and best buy problems)	Clip 42
Exchanging Money	• Use an exchange rate to calculate currencies	Clip 105
Direct and Inverse Proportion	• Understand the idea of direct and inverse proportion • Solving simple direct proportion problems	Clip 199
Key words	Currency, Exchange, proportion	

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Unit 7: Angles

Topic	Success Criteria	MATHS WATCH CLIP
Measuring and construction	• Be able to use a protractor • Draw acute, right-angled, obtuse and reflex angles • Use compass to construct clean arcs • Be able to construct a triangle from a written description • Be able to construct triangles using SSS, SAS, ASA rules	Clip 46
Angles in triangles	• Know that angles in a triangles total 180° • Find missing angles in triangles • Find missing angles in equilateral and isosceles triangles	Clip 121
Angles in quadrilaterals	• Know that angles in quadrilaterals total to 360° • Know properties of quadrilaterals (inc. square, rectangle, parallelogram, trapezium, kite and rhombus) • Find missing angles in quadrilaterals	Clip 10
Angle facts	• Identify angles at a point, angles at a point on a line and vertically opposite angles • Use knowledge of angles to calculate missing angles in geometrical diagrams	Clip 45
Angles in Parallel Lines	• Identify alternate angles and know that they are equal • Identify corresponding angles and know that they are equal • Use knowledge of alternate and corresponding angles to calculate missing angles in geometrical diagrams	Clip 120
Angles in Polygons	• Use the fact that angles in a triangle total 180° to work out the total of the angles in any polygon • Establish the size of an interior angle in a regular polygon • Know the total of the exterior angles in any polygon • Establish the size of an exterior angle in a regular polygon	Clip 123
Angle reasoning	• Solve angle problems using equations • Solve geometric problems showing reasoning	
Key words	Geometry, Co-interior , Exterior, Interior	

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Unit 8: Statistics

Topic	Success Criteria	MATHS WATCH CLIP
Averages	• Calculate the mean, median, mode and range of a set of numbers	Clip 62
Averages from Tables	• Find the mean, mode and median from frequency tables • Find the mean, mode and median from grouped frequency tables	Clip 130a Clip 130b
Cumulative Frequency	• **Be able to draw a cumulative frequency diagram** • **Use a cumulative frequency diagram to find the median and quartiles of data**	Clip 186
Calculating Quartiles	• **Be able to calculate the median, lower quartile, upper quartile and interquartile range of a set of data**	Clip 186
Box Plots	• **Be able to plot a box plot from a set of data** • **Be able to make comparisons between box plots**	Clip 187
Scatter Graphs	• Be able to plot a scatter graph • Be able to plot a line of best fit and use it to make estimations	Clip 129
Pie Charts	• Be able to draw a pie chart • Be able to compare pie charts	Clip 128a
Stem/Leaf Diagrams	• Be able to draw a stem and leaf diagram • Find averages from a stem and leaf diagram	Clip 128b
Frequency Polygons	• Be able to draw a frequency polygon	Clip 65b
Time Series	• Draw and interpret time series • Use trends to make predictions about the future	Clip 153
Key words	Box plot, comparison, cumulative, cumulative frequency, frequency polygon, interpret, interquartile, quartile, stem and leaf, time series	

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Unit 9: Equations and Inequalities

Topic	Success Criteria	MATHS WATCH CLIP
Function machines	• Find the output on a single and multi-step function machine • Use inverse operations to find the input on a function machine	Clip 36
Solving equations	• Solve one step equations using inverse operations or the balancing method • Solve multi step equations using inverse operations or the balancing method • Solve equations with unknowns on both sides • Form and solve equations	Clip 135a Clip 135b
	• Rearrange simple formulae w + 6 = y (w)	Clip 136
Representing Inequalities	• Represent an inequality on a number line • Write a solution set for an inequality	Clip 138
Solving Inequalities	• Solve a linear inequality with only positive variables • Solve a linear inequality with negative variables • Solve an inequality with two variables • **Solve inequalities with three parts**	Clip 139
Key words	Inequality, unknown, variable, Linear	

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Unit 10: Probability and Venn Diagrams

Topic	Success Criteria	MATHS WATCH CLIP
Introduction	• Understand what probability is • Be able to describe the probability • Plot probability on a number line	Clip 14
Theoretical Probability	• List all the outcomes for an event or experiment • Recognise when it is not possible to work out a theoretical probability for an event • Work out theoretical probabilities for events with equally likely outcomes	Clip 59
Probability Space	• Construct theoretical probability spaces for combined experiments with equally likely outcomes • Calculate probabilities using a probability space	Clip 126
Combined Probability	• Use frequency trees • List outcomes of combined events using a tree diagram • Use a tree diagram to calculate probabilities of independent combined events • **Use a tree diagram to calculate probabilities of dependent combined events**	Clip 57 Clip 65 Clip 151 Clip 175
Venn Diagrams	• Use Venn diagrams to work out probability • Understand the language of sets and Venn diagrams	Clip 185 Clip 127a Clip 127b
Key words	combined, frequency tree, outcome, prediction, probability, probability space, probability tree, set, theoretical tree diagram, Venn diagram,	

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Unit 11: Graphs

Topic	Success Criteria	MATHS WATCH CLIP
Coordinates	• Plot and write coordinates in positive or negative quadrants • Identify and plot points on a grid • Find the midpoint of a line	Clip 8
Straight Line Graphs	• Complete a table of values • Plot a straight line on a graph • **Plot graphs of the form 2x + 3y = 12**	Clip 96
Gradients	• Find the gradient of a line algebraically and graphically • Use y = mx + c to identify parallel and perpendicular lines • Find the equation of a line when given a point and gradient • **Find the equation of a line when given two points**	Clip 159b Clip 159a
Distance/Time Graphs	• Draw and interpret distance/time graphs • Calculate the speed from a distant time graph	Clip 143
Key words	Distance, gradient, speed	

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