



Network School KS3 Long Term Curriculum Plan

Subject - Mathematics				
Year Group	Term 1 (Aug – Oct)	Term 2 (Oct – Dec)	Term 3 (Jan – Mar)	Term 4 (Mar – May)
Year 7	<p>1) <u>Number</u> – Using numbers</p> <p>1.1 Charts and financial mathematics</p> <p>1.2 Positive and negative numbers</p> <p>1.3 Simple arithmetic with negative numbers</p> <p>1.4 Subtracting negative numbers</p> <p>1.5 Multiplying negative numbers</p> <p>Review and End of topic test</p> <p>Problem solving (op) – Where in the world?</p> <p>2) <u>Algebra</u> – Sequences</p> <p>2.1 Function machine</p> <p>2.2 Sequences and rules</p> <p>2.3 Working out missing terms</p> <p>2.4 Working out the nth term</p> <p>2.5 Other sequences</p> <p>Review and End of topic test</p> <p>Mathematical reasoning (op) – Valencia Planetarium</p> <p>3) <u>Shape and Space</u> – Perimeter, area and volume</p>	<p>5) <u>Number</u> - Working with numbers</p> <p>5.1 Square numbers and square roots</p> <p>5.2 Rounding</p> <p>5.3 Order of operations</p> <p>5.4 Multiplication problems without a calculator</p> <p>5.5 Division problems without a calculator</p> <p>5.6 Calculations with measurements</p> <p>Review and End of topic test</p> <p>Problem solving (op) – What is your carbon footprint?</p> <p>6) <u>Data</u> – Statistics</p> <p>6.1 Mode, median and range</p> <p>6.2 The mean</p> <p>6.3 Statistical diagrams</p> <p>6.4 Collecting and using discrete data</p> <p>6.5 Collecting and using continuous data</p> <p>6.6 Data collection</p> <p>Review and End of topic test</p> <p>Challenge (op) – Maths tournament</p> <p>7) <u>Algebra</u> - Algebra</p>	<p>9) <u>Shape and Space</u> – Angles</p> <p>9.1 Measuring and drawing angles</p> <p>9.2 Calculating angles</p> <p>9.3 Corresponding and alternate angles</p> <p>9.4 Angles in a triangle</p> <p>9.5 Angles in a quadrilateral</p> <p>9.6 Properties of triangles and quadrilaterals</p> <p>Review and End of topic test</p> <p>Activity (op) – Constructing triangles and quadrilaterals</p> <p>10) <u>Algebra</u> – Coordinates and graphs</p> <p>10.1 Coordinates in four quadrants</p> <p>10.2 Graphs from relationship</p> <p>10.3 Predicting graphs from relationships</p> <p>10.4 Graphs of fixed values of x and y, $y=x$ and $y=-x$</p> <p>10.5 Graphs of the form $x+y=a$</p> <p>10.6 Graphs from the real</p>	<p>14) <u>Algebra</u> – Equations</p> <p>14.1 Finding unknown numbers</p> <p>14.2 Solving equations</p> <p>14.3 Solving more complex equations</p> <p>14.4 Setting up and solving equations</p> <p>Review and End of topic test</p> <p>Challenge (op) – Number puzzles</p> <p>15) <u>Data</u> – Interpreting data</p> <p>15.1 Pie charts</p> <p>15.2 Comparing range and averages of data</p> <p>15.3 Statistical survey</p> <p>Review and End of topic test</p> <p>Challenge (op) – Ice-skate dancing competition</p> <p>16) <u>Shape and Space</u> – 3D shapes</p> <p>16.1 Naming and</p>



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	<p>3.1 Perimeter and area of rectangles 3.2 Perimeter and area of compound shapes 3.3 Area of some other 2D shapes 3.4 Surface area and volume of cubes and cuboids Review and End of topic test Problem solving (op) – Design a bedroom.</p> <p>4) <u>Number</u> – Decimal numbers 4.1 Multiplying and dividing by 10, 100, 1000 and 10000 4.2 Ordering decimals 4.3 Estimates 4.4 Adding and subtracting decimals 4.5 Multiplying decimals 4.6 Dividing decimals Review and End of topic test Financial skills (op) – Porridge is so good for you.</p>	<p>7.1 Expressions and substitution 7.2 Simplifying expressions 7.3 Using formulae 7.4 Writing formulae Review and End of topic test Problem solving (op) – Winter sports</p> <p>8) <u>Number</u> – Fractions 8.1 Equivalent fractions 8.2 Comparing fractions 8.3 Adding and subtracting fractions 8.4 Mixed numbers and improper fractions 8.5 Calculations with mixed numbers Review and End of topic test Challenge (op) – Fractional dissections.</p>	<p>world Review and End of topic test Challenge (op) – Travelling abroad</p> <p>11) <u>Number</u> – Percentages 11.1 Fractions, decimals and percentages 11.2 Fraction of a quantity 11.3 Calculating simple percentages 11.4 Percentages with a calculator 11.5 Percentage increases and decreases Review and End of topic test Functional skills (op) – Income tax</p> <p>12) <u>Data</u> – Probability 12.1 Probability scales 12.2 Combined events 12.3 Experimental probability Review and end of topic test Financial skills (op) – School Easter Fayre</p> <p>13) <u>Shape and Space</u> – Symmetry 13.1 Line symmetry and</p>	<p>drawing 3D shapes 16.2 Using nets to construct 3D shapes 16.3 3D investigations Review and End of topic test Problem solving (op) – Packing boxes</p> <p>17) <u>Number</u> – Ratio 17.1 Introduction to ratios 17.2 Simplifying ratios 17.3 Ratios and sharing 17.4 Solving problems Review and End of topic test Problem solving (op) – Smoothie bar</p>
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			rotational symmetry 13.2 Reflections 13.3 Rotations 13.4 Tessellations Review and End of topic test Activity (op) – Rangoli patterns	
Year 8	<p>1) <u>Number</u> – Working with numbers</p> 1.1 Multiplying and dividing negative numbers 1.2 Factors and highest common factor (HCF) 1.3 Multiples and lowest common multiple (LCM) 1.4 Power and roots 1.5 Prime factors Review and End of topic test Challenge (op) – Blackpool tower <p>2) <u>Shape and Space</u> – Geometry</p> 2.1 Parallel lines 2.2 The geometric properties of quadrilaterals 2.3 Translations 2.4 Enlargements 2.5 Constructions Review and End of topic test	<p>5) <u>Shape and Space</u> – Congruent shapes</p> 5.1 Congruent shapes 5.2 Congruent triangles 5.3 Using congruent triangles to solve problems Review and End of topic test Investigation (op) – Using scale diagrams to work out distances <p>6) <u>Shape and Space</u> – Surface area and volume of prisms</p> 6.1 Metric units for area and volume 6.2 Surface area of prisms 6.3 Volume of prisms Review and End of topic test Investigation (op) – A cube investigation <p>7) <u>Algebra</u> – Graphs</p> 7.1 Graphs from linear equations	<p>9) <u>Data</u> – Interpreting data</p> 9.1 Interpreting graphs and diagrams 9.2 Relative sized pie charts 9.3 Scatter graphs and correlation 9.4 Creating scatter graphs Review and End of topic test Challenge (op) – Football attendances <p>10) <u>Algebra</u> – Algebra</p> 10.1 Algebraic notation 10.2 Like terms 10.3 Expanding brackets 10.4 Using algebraic expressions 10.5 Using index notation Review and End of topic test Mathematical reasoning (op) – Writing in algebra	<p>13) <u>Number</u> – Proportion</p> 13.1 Direct proportion 13.2 Graphs and direct proportion 13.3 Inverse proportion 13.4 Comparing direct proportion and inverse proportion Review and End of topic test Challenge (op) – Planning a trip <p>14) <u>Shape and Space</u> – Circles</p> 14.1 The circumference of a circle 14.2 Formula for the circumference of a circle 14.3 Formula for the area of a circle Review and End of topic test Functional skills (op) –



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	<p>Challenge (op) – More constructions</p> <p>3) <u>Data</u> – Probability</p> <p>3.1 Mutually exclusive outcomes and exhaustive outcomes</p> <p>3.2 Using a sample space to calculate probabilities</p> <p>3.3 Estimates of probabilities</p> <p>Review and End of topic test</p> <p>Functional skills (op) – Fun in the fairground.</p> <p>4) <u>Number</u> – Percentages</p> <p>4.1 Calculating percentages</p> <p>4.2 Calculating percentage increases and decreases</p> <p>4.3 Calculating a percentage change</p> <p>Review and End of topic test</p> <p>Challenge (op) – changes in population</p>	<p>7.2 Gradient (Steepness) of a straight line</p> <p>7.3 Graphs from quadratic equations</p> <p>7.4 Real-life graphs</p> <p>Review and End of topic test</p> <p>Challenge (op) – M25</p> <p>8) <u>Number</u> – Number</p> <p>8.1 Powers of 10</p> <p>8.2 Significant figures</p> <p>8.3 Standard form with large numbers</p> <p>8.4 Multiplying with numbers in standard form</p> <p>Review and End of topic test</p> <p>Challenge (op) – Space – to see where no one has seen before</p>	<p>11) <u>Shape and Space</u> – Shape and ratio</p> <p>11.1 Ratio of lengths, areas and volumes</p> <p>11.2 Fractional enlargements</p> <p>10.3 Map scales</p> <p>Review and End of topic test</p> <p>Activity (op) – Map reading</p> <p>12) <u>Number</u> – Fractions and decimals</p> <p>12.1 Adding and subtracting fractions</p> <p>12.2 Multiplying fractions and integers</p> <p>12.3 Dividing with integers and fractions</p> <p>12.4 Multiplication with large and small numbers</p> <p>12.5 Division with large and small numbers</p> <p>Review and End of topic test</p> <p>Challenge (op) - Guesstimates</p>	<p>Athletics stadium</p> <p>15) <u>Algebra</u> – Equations and formulae</p> <p>15.1 Equations with brackets</p> <p>15.2 Equations with the variable on both sides</p> <p>15.3 More complex equations</p> <p>15.4 Rearranging formulae</p> <p>Review and End of topic test</p> <p>Reasoning (op) – Using graphs to solve equations</p> <p>16) <u>Data</u> – Comparing data</p> <p>16.1 Grouped frequency tables</p> <p>16.2 Drawing frequency diagrams</p> <p>16.3 Comparing sets of data</p> <p>16.4 Misleading charts</p> <p>Review and End of topic test</p> <p>Problem solving (op) – Why do we use so many devices to watch TV?</p>
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Year 9	<p>1) <u>Number</u> – Percentages</p> <p>1.1 Simple interest 1.2 Percentage increases and decreases 1.3 Calculating the original value 1.4 Repeated percentage changes Review and End of topic test Challenge (op) Exponential growth</p> <p>2) <u>Algebra</u> – Equations and formulae</p> <p>2.1 Multiplying out brackets 2.2 Factorising algebraic expressions 2.3 Expressions with several variables 2.4 Equations with fractions Review and End of topic test Investigation (op) – Body mass index</p> <p>3) <u>Shape and Space</u> – Polygons</p> <p>3.1 Properties of polygons 3.2 Interior and exterior angles of regular polygons 3.3 Tessellations and regular</p>	<p>5) <u>Algebra</u> – Applications of graphs</p> <p>5.1 Step graphs 5.2 Time graphs 5.3 Exponential growth graphs Review and End of topic test Problem solving (op) – Mobile phone tariffs</p> <p>6) <u>Shape and Space</u> – Pythagoras’ theorem</p> <p>6.1 Introducing Pythagoras’ theorem 6.2 Using Pythagoras’ theorem to solve problems 6.3 The converse of Pythagoras’ theorem Review and End of topic test Activity (op) – Practical Pythagoras</p> <p>7) <u>Number</u> – Fractions</p> <p>7.1 Adding and subtracting fractions 7.2 Multiplying fractions and mixed numbers 7.3 Dividing fractions and mixed numbers 7.4 Algebraic fractions</p>	<p>8) <u>Data</u> – Using data</p> <p>8.1 Scatter graphs and correlation 8.2 Two-way tables 8.3 Estimation of a mean from grouped data 8.4 Cumulative frequency diagrams 8.5 Statistical investigations Review and End of topic test Challenge (op) - census</p> <p>9) <u>Number</u> – Decimal numbers</p> <p>9.1 Powers of 10 9.2 Standard form 9.3 Multiplying with numbers in standard form 9.4 Dividing with numbers in standard form 9.5 Upper and lower bounds Review and End of topic test Mathematical reasoning (op) – To the stars and back</p> <p>10) <u>Shape and Space</u> – Surface area and volume of cylinders</p>	<p>11) <u>Algebra</u> – Solving equations graphically</p> <p>11.1 Graphs from equations in the form $ay \pm bx = c$ 11.2 Solving simultaneous equations by drawing graphs 11.3 Solving quadratic equations by drawing graphs 11.4 Solving cubic equations by drawing graphs Review and End of topic test Challenge (op) – Maximum packages</p> <p>12) <u>Algebra</u> – Compound units</p> <p>12.1 Speed 12.2 More compound units 12.3 Unit costs Review and End of topic test Challenge (op) –</p>



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	<p>polygons Review and End of topic test Mathematical reasoning (op) – Semi-regular tessellations</p> <p>4) <u>Algebra</u> – Algebra 4.1 Expanding the product of two brackets 4.2 Expanding expressions with more than two brackets 4.3 Factorising quadratic expressions with positive coefficients 4.4 Factorising quadratic expressions with negative coefficients 4.5 The difference of two squares Review and End of topic test Challenge (op) – Graphs from expressions.</p>	<p>Review and End of topic test Investigations (op) – Fractions from one to six</p>	<p>10.1 Volume of a cylinder 10.2 Surface area of a cylinder 10.3 Composite shapes Review and End of topic test Problem solving (op) – Packing soup</p>	<p>Population density</p> <p>13) <u>Shape and Space</u> – Right angled triangles 13.1 Introduction to trigonometric ratios 13.2 How to find trigonometric ratios of angles 13.3 Using trigonometric ratios to find angles 13.4 Using trigonometric ratios to find lengths Review and End of topic test Investigation (op) – Barnes Wallis and the bouncing bomb.</p> <p>14) <u>Revision and IGCSE preparation</u> 14.1 Practice 14.2 Revision IGCSE type questions</p>
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