



KS3 Mathematics 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>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>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</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>



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	<p>3) <u>Shape and Space</u> – Perimeter, area and volume</p> <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</p> <p>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>Challenge (op) – Maths tournament</p> <p>7) <u>Algebra</u> - Algebra</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</p> <p>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>of x and y, $y=x$ and $y= -x$ 10.5 Graphs of the form $x+y=a$ 10.6 Graphs from the real world Review and End of topic test Challenge (op) – Travelling abroad</p> <p>11) <u>Number</u> – Percentages</p> <p>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</p> <p>12.1 Probability scales 12.2 Combined events 12.3 Experimental</p>	<p>16) <u>Shape and Space</u> – 3D shapes</p> <p>16.1 Naming and 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</p> <p>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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			<p>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 rotational symmetry 13.2 Reflections 13.3 Rotations 13.4 Tessellations Review and End of topic test Activity (op) – Rangoli patterns</p>	
Year 8	<p>1) <u>Number</u> – <u>Working with numbers</u> 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>	<p>5) <u>Shape and Space</u> – Congruent shapes 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> <p>6) <u>Shape and Space</u> – Surface area and</p>	<p>9) <u>Data</u> – Interpreting data 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>	<p>13) <u>Number</u> – Proportion 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>



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	<p>2) <u>Shape and Space</u> – Geometry</p> <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 Challenge (op) – More constructions</p> <p>3) <u>Data</u> – Probability</p> <p>3.1 Mutually exclusive outcomes and exhaustive outcomes 3.2 Using a sample space to calculate probabilities 3.3 Estimates of probabilities Review and End of topic test Functional skills (op) – Fun in the fairground.</p> <p>4) <u>Number</u> – Percentages</p> <p>4.1 Calculating percentages 4.2 Calculating percentage increases and decreases 4.3 Calculating a percentage change</p>	<p>volume of prisms</p> <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> <p>7) <u>Algebra</u> – Graphs</p> <p>7.1 Graphs from linear equations 7.2 Gradient (Steepness) of a straight line 7.3 Graphs from quadratic equations 7.4 Real-life graphs Review and End of topic test Challenge (op) – M25</p> <p>8) <u>Number</u> – Number</p> <p>8.1 Powers of 10 8.2 Significant figures 8.3 Standard form with large numbers 8.4 Multiplying with numbers in standard form Review and End of topic test Challenge (op) – Space – to see where no one has seen before</p>	<p>10) <u>Algebra</u> – Algebra</p> <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> <p>11) <u>Shape and Space</u> – Shape and ratio</p> <p>11.1 Ratio of lengths, areas and volumes 11.2 Fractional enlargements 10.3 Map scales Review and End of topic test Activity (op) – Map reading</p> <p>12) <u>Number</u> – Fractions and decimals</p> <p>12.1 Adding and subtracting fractions 12.2 Multiplying fractions and integers 12.3 Dividing with integers and fractions</p>	<p>14) <u>Shape and Space</u> – Circles</p> <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) – Athletics stadium</p> <p>15) <u>Algebra</u> – Equations and formulae</p> <p>15.1 Equations with brackets 15.2 Equations with the variable on both sides 15.3 More complex equations 15.4 Rearranging formulae Review and End of topic test Reasoning (op) – Using graphs to solve equations</p>
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	<p>Review and End of topic test Challenge (op) – changes in population</p>		<p>12.4 Multiplication with large and small numbers 12.5 Division with large and small numbers Review and End of topic test Challenge (op) - Guesstimates</p>	<p>16) Data – Comparing data 16.1 Grouped frequency tables 16.2 Drawing frequency diagrams 16.3 Comparing sets of data 16.4 Misleading charts Review and End of topic test Problem solving (op) – Why do we use so many devices to watch TV?</p>
Year 9	<p>1) Number – Percentages 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) Algebra – Equations and formulae</p>	<p>5) Algebra – Applications of graphs 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) Shape and Space – Pythagoras’ theorem 6.1 Introducing Pythagoras’ theorem 6.2 Using Pythagoras’ theorem</p>	<p>8) Algebra – Algebra 8.1 Expanding the product of two brackets 8.2 Expanding expressions with more than two brackets 8.3 Factorising quadratic expressions with positive coefficients 8.4 Factorising quadratic expressions with negative coefficients 8.5 The difference of two squares</p>	<p>11) Algebra – Solving equations graphically 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</p>



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	<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 polygons Review and End of topic test Mathematical reasoning (op) – Semi-regular tessellations</p> <p>4) <u>Data</u> – Using data</p> <p>4.1 Scatter graphs and correlation 4.2 Two-way tables 4.3 Estimation of a mean from grouped data 4.4 Cumulative frequency diagrams 4.5 Statistical investigations</p>	<p>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 Review and End of topic test Investigations (op) – Fractions from one to six</p>	<p>Review and End of topic test Challenge (op) – Graphs from expressions</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>10.1 Volume of a cylinder 10.2 Surface area of a cylinder 10.3 Composite shapes Review and End of topic test</p>	<p>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) – Population density</p> <p>13) <u>Shape and Space</u> – Right angled triangles</p> <p>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</p>
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NETWORK
INTERNATIONAL SCHOOL
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	Review and End of topic test Challenge (op) – Census		Problem solving (op) – Packing soup	Review and End of topic test Investigation (op) – Barnes Wallis and the bouncing bomb. 14) <u>Revision and</u> <u>IGCSE</u> <u>preparation</u> 14.1 Practice 14.2 Revision IGCSE type questions
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