

## S2 Course Overview

The table below indicates the topics and the time frame in which they are taught during S2. The topics listed within a timeframe aren't necessarily taught in the order listed, but will be covered within the time frame or before an assessment. (This is a guide and is subject to change).

Time Frame	Topic	Description	Checklist
June	Data & Analysis_A	<ul style="list-style-type: none"> <li>Revision- Reading/drawing pictographs/bar graphs/line graphs</li> <li>Looking at averages-Mean, median, mode and range</li> <li>Constructing/reading frequency tables</li> <li>Reading/drawing simple pie Charts</li> <li>Extension- Drawing more complicated pie charts (where angles needs to be worked out first)</li> <li>Extension- Constructing cumulative frequency tables</li> </ul>	
	Whole Numbers_Number problems/Number facts & Order of operations	<ul style="list-style-type: none"> <li>4 operations involving (+,-,x,÷)</li> <li>Long multiplication</li> <li>Rules of order of operation- the order in which a sum with more than one operation must be done. BRACKETS, ORDER, DIVISION, MULTIPLICATION, ADD, SUBTRACT e.g. <math>5 * (3 + 4)</math></li> </ul>	
	Percentages_1	<ul style="list-style-type: none"> <li>Simple Non-calc. percentages (finding 1%,10%,20%,25%, etc. &amp; 27% using 20%+7% etc.)</li> </ul>	
	Negative Numbers	<ul style="list-style-type: none"> <li>Look at negative numbers in context (temperature, money etc.),</li> <li>Basic add/subtract with negatives, involving number line (e.g. <math>-2 + 5</math>, <math>7 - 15</math> etc)</li> <li>Add/subtract involving double negatives/negative with a positive e.g. <math>-3 - (-5)</math> or <math>-4 + (-2)</math></li> <li>Multiply/divide negative numbers</li> </ul>	
August - October	Decimals	<ul style="list-style-type: none"> <li>4 operations involving decimals (+,-,x,÷)</li> <li>Reading decimal scales</li> <li>Multiply/divide a decimal by decimal</li> <li>Round to the nearest whole number/10/100/1000 and to a particular decimal place</li> <li>Multiply/Divide a decimal by 10,100,1000</li> <li>Multiply/divide by multiples of 10,100,1000 e.g. <math>x, ÷</math> by 20,400 etc</li> <li>Extension- Multiply/divide a decimal by decimal</li> <li>Extension- Rounding to a given number of significant figures</li> </ul>	
	Fractions	<ul style="list-style-type: none"> <li>Meaning of fractions (numerator/denominator)</li> <li>Recognise and create Equivalent fractions (<math>\frac{4}{12} = \frac{1}{3}</math>), including simplifying fractions</li> <li>Fraction of a quantity (Find <math>\frac{3}{4}</math> of 20)</li> <li>Add/subtract fractions with and without common denominator.</li> <li>Extension– change a fraction from top heavy/mixed number to mixed/top heavy (e.g. <math>\frac{23}{4} = 5\frac{3}{4}</math>)</li> <li>Extension- Add/subtract mixed fractions</li> <li>Extension – multiply/divide fractions.</li> </ul>	

	Expressions & Equations_1 (Algebra)	<ul style="list-style-type: none"> <li>Simplifying expressions (collecting like terms)</li> <li>Substitution (replacing a letter with a number)</li> <li>Solving/Forming basic equations (e.g. <math>2x + 5 = 15</math>)</li> <li>Extension- solving equations with fractions (e.g. <math>\frac{1}{2}x + 4 = 10</math>)</li> </ul>	
	Measurement	<ul style="list-style-type: none"> <li>Metric unit conversion (convert between metres, centimetres, millimetres &amp; kilometres.</li> <li>Converting weight capacity (1 kilogram = 1000 grams)</li> </ul>	

<b>October - December</b>	Area & Perimeter_A	<ul style="list-style-type: none"> <li>Perimeter and area of a rectangle revision (including unit conversion when required)</li> <li>Area of triangle</li> <li>Composite area</li> <li>Extension- Area of other quadrilaterals</li> </ul>	
	Volume	<ul style="list-style-type: none"> <li>Volume of cuboid &amp; composite volume</li> <li>Capacity– converting units ( 1ml = 1cm<sup>3</sup>, 1L = 1000ml)</li> </ul>	
	<b>Assessment (November Numeracy Test_Non Calc)</b>	<ul style="list-style-type: none"> <li>A revision homework will be provided before this assessment.</li> <li>Class moves normally take place after this assessment.</li> </ul>	
	Percentages_2	<ul style="list-style-type: none"> <li>Convert between fractions/decimals &amp; percentages (e.g. <math>\frac{1}{4} = 0.25 = 25\%</math>, <math>\frac{1}{3} = 0.33 = 33\frac{1}{3}\%</math>)</li> <li>Expressing a test score expressed as a %</li> <li>Extension- Percentage increase and decrease</li> <li>Extension- Reverse percentages</li> </ul>	
	Time	<ul style="list-style-type: none"> <li>Revision of 12hr and 24hr clock &amp; change between 12hr/24hr times</li> <li>Using/reading timetables</li> <li>Time intervals (e.g. how long is it from 1352 to 1719)</li> <li>Distance, speed &amp; Time calculations</li> <li>Extension- Convert hours and minutes into decimal times (e.g. 4 hours 15mins = 4.25 hours)</li> </ul>	
	Patterns & Formulae	<ul style="list-style-type: none"> <li>Simple and more complicated linear patterns (using a table and creating formulas)</li> <li>Extension- square/triangular patterns</li> <li>Extension- Using a table of values to draw graphs</li> </ul>	

<b>January - March</b>	Ratio & Proportion	<ul style="list-style-type: none"> <li>Simplifying ratios (e.g. 15 : 3 becomes 5 : 1)</li> <li>Ratio shares (e.g. share £124 in the ratio of 3 : 1)</li> <li>Direct proportion- as one quantity increases the other also increases and vice versa (e.g. 6 cakes = £4.20 → 1 cake = £0.70 → 5 cakes = 5 x 0.70 = £3.50)</li> <li>Extension- indirect proportion- as one quantity increases the other decreases and vice versa</li> <li>Extension- Direct proportion including linear graphs</li> </ul>	
	Probability/Data and Analysis (B)	<ul style="list-style-type: none"> <li>Calculating probability</li> <li>Stem and leaf diagrams</li> </ul>	

		<ul style="list-style-type: none"> <li>Scattergraphs –plotting and reading</li> <li>Revision- Mean, median, mode &amp; Range</li> </ul>	
	Angles/Scale Drawing	<ul style="list-style-type: none"> <li>Types &amp; Naming angles revision (acute, obtuse, right etc &amp; <math>\angle ADB</math>)</li> <li>Measuring/drawing angles using a protractor</li> <li>Calculating missing angles (including triangles) using angle facts (no protractor) revision</li> <li>Enlarging/reducing shapes in size by an enlargement/reduction scale factor</li> <li>Drawing triangles</li> <li>Bearings</li> </ul>	
	Spending, Saving and Budgeting	<ul style="list-style-type: none"> <li>Foreign exchange</li> <li>Best buys (e.g. 500g of sweets = £2.65, 700g of sweets = £3.64, which is the better deal?)</li> </ul>	
	Wages and Salaries	<ul style="list-style-type: none"> <li>Calculating hourly rate</li> <li>Weekly/monthly pay from salary</li> <li>Commission/Bonus and Overtime</li> <li>Payslips</li> </ul>	

<b>April - May</b>	<b>Assessment (End of Year test_ Calc and Non Calc)</b>	<ul style="list-style-type: none"> <li>A revision homework(s) will be provided for this assessment. All assessment results &amp; teacher judgment will be collated to determine S3 class.</li> </ul>	
	Multiple/Factors & Primes	<ul style="list-style-type: none"> <li>Multiples– Know what is meant by a multiple and be able to find the Lowest Common Multiple of two or more numbers</li> <li>Factors– Know what is meant by a factor and be able to find the Highest Common Factor of two or more numbers</li> <li>Primes (sieve of Eratosthenes, Factor Trees)</li> </ul>	
	Expressions & Equations_2 (Algebra)	<ul style="list-style-type: none"> <li>Solve equations with unknowns on both sides e.g. <math>5x + 3 = 2x + 12</math></li> <li>Extension- Simplifying expressions including expanding brackets (e.g. <math>3(x + 4) - 5</math>)</li> <li>Extension- Solve equations with unknowns on both sides including with fractions &amp; brackets</li> <li>Extension- Solving inequalities (e.g. <math>7x + 9 &gt; 23</math> or <math>9x - 3 &lt; 15</math>)</li> </ul>	
	Powers & roots	<ul style="list-style-type: none"> <li>Squaring/cubing numbers etc</li> <li>Find the square root of numbers</li> <li>Extension- Introduction to Pythagoras &amp; Finding the hypotenuse</li> <li>Extension- Finding a short side</li> <li>Extension- Problem solving</li> </ul>	
	Area & Perimeter_B	<ul style="list-style-type: none"> <li>Extension- Circumference &amp; Area of a circle</li> </ul>	
	Scientific Notation	<ul style="list-style-type: none"> <li>Extension- Changing small and large numbers to and from standard form</li> </ul>	

