



## Key Stage 4

Year group:	Topics covered:
	<p><b>What will students learn during each year?</b></p> <p><b>1. What knowledge and skills do you want pupils to learn? (Components and Composites) - Outline knowledge which students will receive across the topic taught in each year to ensure pupils to make progress. Which skills will be developed to support knowledge acquisition/application?</b></p> <p>Content selection:</p> <ul style="list-style-type: none"> <li>• does the subject curriculum emphasise ‘enabling knowledge’ and ensure that it is remembered?</li> <li>• Substantive knowledge ▪ Knowledge which enables subsequent learning ▪ Knowledge which enables a desired complex (skilled) performance</li> </ul> <p><b>2. How is learning sequenced effectively over time?</b></p> <p>Sequencing:</p> <ul style="list-style-type: none"> <li>• What must students have already been taught in order to begin to learn this topic? (Prior learning)</li> <li>• Where are the opportunities to address knowledge gaps?</li> </ul> <p>The aims and objectives of the GCSE (9–1) in Mathematics are to enable students to:</p> <ul style="list-style-type: none"> <li>• develop fluent knowledge, skills and understanding of mathematical methods and concepts</li> <li>• acquire, select and apply mathematical techniques to solve problems</li> <li>• reason mathematically, make deductions and inferences, and draw conclusions</li> <li>• comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.</li> </ul> <p>The assessments will cover the following content headings:</p> <ol style="list-style-type: none"> <li>1 Number</li> <li>2 Algebra</li> <li>3 Ratio, proportion and rates of change</li> <li>4 Geometry and measures</li> <li>5 Probability</li> <li>6 Statistics</li> </ol> <ul style="list-style-type: none"> <li>• Two tiers are available: Foundation and Higher (content is defined for each tier).</li> <li>• The qualification consists of three equally-weighted written examination papers at either Foundation tier or Higher tier.</li> <li>• Paper 1 is a non-calculator assessment and a calculator is allowed for Paper 2 and Paper 3.</li> <li>• Each paper is 1 hour and 30 minutes long.</li> <li>• Each paper has 80 marks.</li> </ul>



Year 10

Y10 GCSE Foundation			
Week	Unit	Unit	Hours
<b>Autumn 1</b>			
1	1a	Integers and place value	4
2			
3	1b	Decimals	3
4	1c	Indices, powers and roots	5
5	1d	Factors, multiples and primes	4
6	2a	Algebra; the basics	6
7	2b	Expressions and substitution	5
8		Catch up and assessment	
<b>Autumn 2</b>			
9	3a	Tables, charts and graphs	11
10			
11			
12	3c	Scattergraphs	4
13	4a	Fractions, decimals, percentages	7
14	4b	Percentages	6
15		Catch up and assessment	
<b>Spring 1</b>			
16	5a	Equations and inequalities	9
17			

Y10 GCSE Higher			
Week	Unit	Unit	Hours
<b>Autumn 1</b>			
1	1a	Calculations, checking, rounding	4
2	1b	Indices, roots, reciprocals, BIDMAS	4
3	1c	Factors, multiples, primes, standard form, surds	7
4			
5	2a	Algebra basics; setting up, rearranging, solving equations	10
6			
7	2b	Sequences	4
8		Catch up and assessment	
<b>Autumn 2</b>			
9	3a	Averages and range	4
10	3b	Representing/interpreting, scattergraphs	5
11	4a	Fractions and percentages	12
12			
13			
14	4b	Ratio and proportion	6
15		Catch up and assessment	
<b>Spring 1</b>			
16	5a	Polygons, angles, parallel lines	6
17	5b	Pythagoras, trigonometry	6



18	5b	Sequences	5	18			
19	6a	Properties of shapes, parallel lines and angle facts	7	19	6a	Graphs; the basic and real-life	6
20							
21	6b	Interior/exterior angles of polygons	4	20	6b	Linear graphs and coordinate geometry	8
<b>Spring 2</b>				<b>Spring 2</b>			
22	7	Statistics, sampling, averages	7	22	6c	Quadratic, cubic and other graphs	6
23							
24	8	Perimeter, area, volume	10	24	7b	3D forms and volume, cylinders, cones, spheres	7
25							
26	9a	Real-life graphs	8	26	7c	Accuracy and bounds	5
27							
<b>Summer 1</b>				<b>Summer 1</b>			
28	9b	Straight line graphs	6	28	8a	Transformations	6
29	10	Transformations	11	29	8b	Constructions, loci and bearings	7
30							
31							
32	11a	Ratio	4	31	9a	Quadratic and simultaneous equations	7
33	11b	Proportion	5	32			
<b>Summer 2</b>				<b>Summer 2</b>			
34	12	Pythagoras and trigonometry	5	34	10	Probability	8
35		Revision		35			
36		Y10 PPEs		36		Y10 PPEs	
37	13	Probability	12	37	11	Multiplicative reasoning	8
38							
39							
40	3b	Piecharts	4	39	12	Similarity/congruence in 2D and 3D	6
				40			



Year 11

Y11 GCSE Foundation			
Week	Unit	Unit	Hours
<b>Autumn 1</b>			
1	14	Multiplicative reasoning	7
2			
3	15a	Plans and elevations	5
4	15b	Constructions, loci, bearings	7
5			
6	16a	Quadratic equations - factorising	5
7	16b	Quadratic equations - graphs	4
8		Catch up and assessment	
<b>Autumn 2</b>			
9	17	Circles, cylinders, cones, spheres	6
10			
11	18a	Fractions and reciprocals	5
12	18b	Indices and standard form	5
13	19a	Similarity and congruence in 2D	7
14			
15		Catch up	
<b>Spring 1</b>			
16		PPEs	
17			
18	19b	Vectors	7

Y11 GCSE Higher			
Week	Unit	Unit	Hours
<b>Autumn 1</b>			
1	13a	Graphs of trigonometric functions	6
2			
3	13b	Further trigonometry	9
4			
5	14a	Collecting data	4
6	14b	Cumulative frequency, box plots, histograms	6
7			
8		Catch up and assessment	
<b>Autumn 2</b>			
9	15	Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics	7
10			
11	16a	Circle theorems	5
12	16b	Circle geometry	5
13	17	Changing the subject, algebraic fractions, solving equations from algebraic fractions, rationalising surds, proof	7
14			
15	18	Catch up and assessment	
<b>Spring 1</b>			
16		PPEs	
17			
18		Vectors and geometric proof	9



19				19			
20	20	Rearranging equations, cubic and reciprocal graphs, simultaneous equations	5	20	20	Reciprocal/exponential graphs, gradient and area under graphs	7
21				21			
22				22		Direct and inverse proportion	7
<b>Spring 2</b>				<b>Spring 2</b>			
23				23			
24				24			
25				25			
26				26			
27				27			
28				28			

<b>Assessment:</b>	<b>How Will I be assessed at Key Stage 4?</b>
	<p>At the beginning of each new topic in year 10 and 11 pupils have a go at ‘the bigger picture’. This shows them exactly what they are going to learn in the forthcoming topic. They are also assessed using unit topic tests at the end of these topics as they progress through the units.</p> <p>Pupils in year 10 will complete one full set of PPE’s( 3 papers) and then in year 11 they will complete three full sets of PPE’S throughout the year. These are all completed in exam conditions .</p> <p>The assessments will cover the following content headings just as they will at the end of year 11.</p> <ul style="list-style-type: none"> <li>1 Number</li> <li>2 Algebra</li> <li>3 Ratio, proportion and rates of change</li> <li>4 Geometry and measures</li> <li>5 Probability</li> <li>6 Statistics</li> </ul>



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