Key Stage 4 Framework for Learning

Year 11 2018-2019: I am Creative, Successful, Happy

Curriculum Area:

Year 11	Autumn 1	Autumn 2		Spring 1	Spring 2	Summer 1
Syllabus	GCSE Edexcel (9-1) Mathematics	GCSE Edexcel (9-1) Mathematics	ELE – 1 Day:	GCSE Edexcel (9-1) Mathematics	GCSE Edexcel (9-1) Mathematics	GCSE Edexcel (9-1) Mathematics
Knowledge	**Number and Calculator** skills (find the reciprocal of simple numbers/fractions mentally) **Measures** **Accuracy and Bounds** **Factors, Multiples and Primes (**use prime factorisation to represent a number as a product of its primes using index notation) **Expressions** **Indices and Surds** (recall that $n^0 = 1$ and $n^{-1} = 1/n$ for positive integers n as well as $n^{1/2} = \sqrt{n}$ and $n^{1/3} = \sqrt[3]{n}$ for any positive number n; simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{(4 \times 3)} = 2\sqrt{3}$); simplify surd expressions involving squares) **Geometry of 2D and 3D Shapes** **Angles and polygons** **Fractions, Decimals and Percentages** **Trigonometry** (find angles of elevation and angles of	**Data Types and Sampling** **Sequences** **Equations, Iteration (Quadratic Sequences, Quadratics and Polynomials)** (rearrange simple equations; use systematic trial and improvement to find the approximate solution to one decimal place of equations such as $x^3 = 29$) **Simultaneous Equations** **Perimeter and Area** (use and apply Pythagoras' theorem to solve problems) **Proportion and Rates of Change** (express a multiplicative relationship between two quantities as a ratio or a fraction; use compound interest)		**Surface Area and Volume** **Collecting and Displaying Data** **Co-ordinates** **Transformations** (recognise whether a reflection is correct) **Ratio** (express a multiplicative relationship between two quantities as a ratio or a fraction) **Probability** (use tree diagrams to calculate the probability of two dependent events; use tree diagrams to calculate the probability of two independent events) **Constructions** (draw the locus equidistant between 2 points or from a point; produce shapes and paths by using descriptions of loci) **Linear Graphs** (know that the gradient of a line is the change in y over change in x; know that a line perpendicular to the	**Revision based topics tailored to students' specific learning needs as identified through use of PLCs and practice examinations.**	**Revision based topics tailored to students' specific learning needs as identified through use of PLCs and practice examinations.**

	depression; know and apply the sine rule a/sin A = b/sin B = c/sin C to find unknown lengths and angles; know and apply the cosine rule $a^2 = b^2 + c^2 - 2bc \cos A$ to find unknown lengths **Fractions** **Symbols**		line y = mx + c, will have a gradient of -1/m) **Statistical Measures Similarity, Congruence and Scale** (know that enlargements of 2D shapes produce similar shapes; understand that the ratio of any two sides is constant in similar right-angled triangles)		
Skills	• 4 Operations • Solving multistep worded problems • Use of mathematical equipment • Reading scales • Rounding • Recognising parts of a whole • Substitution • Interpreting an unfamiliar context and applying a method to solve it • developing strategies for problem-solving, such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of mathematics	• Multiplication • Division • Interpreting data • Pattern recognition • Understanding how ratio/proportion link together • Solving an equation and checking whether it works through substitution • Confidence at using a calculator • Interpreting an unfamiliar context and applying a method to solve it • developing strategies for problem-solving, such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of mathematics	• Drawing and labelling axes • Comparing and interpreting averages and range • Identifying parallel and perpendicular lines • Accurate use of mathematical equipment such as a ruler, protractor and compass • Confidence at using a calculator • Interpreting an unfamiliar context and applying a method to solve it • developing strategies for problem-solving, such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of		

			mathematics		
Assessment	*Marking Point 1* Students will complete a mock GCSE examination paper for the new specification 9-1 GCSE during Week 3 of the term. Students will be provided with feedback on their examination in the form of a Personal Learning Checklist and two stars and a wish. *Marking Point 2* Students will be assessed on their written piece of homework which assesses their skills in answering a Quality of Written Communication exam question. *Marking Point 3* Students will be assessed on their understanding of a specific topic chosen by their teacher from the topics listed above. Feedback for this will be provided in the form of two stars and a wish.	*Marking Point 1* Students will complete their College Entry examinations which will inform any final set movements in Spring 1 and determine tier of entry. *Marking Point 2* Students will be assessed on their written piece of homework which assess their skills in answering a Quality of Written Communication exam question. *Marking Point 3* Students will be assessed on their understanding of a specific topic chosen by their teacher from the topics listed above. Feedback for this will be provided in the form of two stars and a wish.	Students will complete GCSE exams papers every two weeks/weekly dependent on ability. Written feedback will be given on this in the form of a PLC and students will be able to focus their revision efforts on areas of weakness.	Students will complete GCSE exams papers every two weeks/weekly dependent on ability. Written feedback will be given on this in the form of a PLC and students will be able to focus their revision efforts on areas of weakness.	Students will complete GCSE exams papers every two weeks/weekly dependent on ability. Written feedback will be given on this in the form of a PLC and students will be able to focus their revision efforts on areas of weakness.
Cultural Enrichment	**READ** Students can access a daily conundrum linked to topics covered this year on Corbitt Maths under 'Corbitt's conundrums' on the home page of the website: www.corbittmaths.com **WATCH** Worked solutions for practice papers can be accessed on YouTube by specifying the tier, set and paper specifics in the search bar. **VISIT** Students can log onto PiXL Maths App (logins were	**READ** Students can access a daily conundrum linked to topics covered this year on Corbitt Maths under 'Corbitt's conundrums' on the home page of the website: www.corbittmaths.com **WATCH** Worked solutions for practice papers can be accessed on YouTube by specifying the tier, set and paper specifics in the search bar.	**READ** Students can access a daily conundrum linked to topics covered this year on Corbitt Maths under 'Corbitt's conundrums' on the home page of the website: www.corbittmaths.com **WATCH** Worked solutions for practice papers can be accessed on YouTube by specifying the tier, set and paper specifics in the search bar. **VISIT**	**READ** Students can access a daily conundrum linked to topics covered this year on Corbitt Maths under 'Corbitt's conundrums' on the home page of the website: www.corbittmaths.com **WATCH** Worked solutions for practice papers can be accessed on YouTube by specifying the tier, set and paper specifics in the search bar. **VISIT**	**READ** Students can access a daily conundrum linked to topics covered this year on Corbitt Maths under 'Corbitt's conundrums' on the home page of the website: www.corbittmaths.com **WATCH** Worked solutions for practice papers can be accessed on YouTube by specifying the tier, set and paper specifics in the search bar. **VISIT** Students can log onto PiXL

	given to students in Year 10 and at the start of term) to revise key topics covered this half term	**VISIT** Students can log onto PiXL Maths App (logins were given to students in Year 10 and at the start of term) to revise key topics covered this half term		Students can log onto PiXL Maths App (logins were given to students in Year 10 and at the start of term) to revise key topics covered this half term	Students can log onto PiXL Maths App (logins were given to students in Year 10 and at the start of term) to revise key topics covered this half term	Maths App (logins were given to students in Year 10 and at the start of term) to revise key topics covered this half term
Character	 QofS – Optimism **Optimism - s**tudents continuously track their own progress throughout the year and reflect on their learning journey so far through the GCSE syllabus. This for many can provide optimism and motivation.	 QofS – Empathy **Empathy** – student-friendly mark schemes are provided and used by peers to assess work and give constructive feedback.		 QofS – Creativity & Curiosity **Creativity** – students are encouraged to try various problem solving strategies to tackle a problem as often there can be numerous ways to reach a solution. **Curiosity** – students are encouraged to learn independently through PiXL Maths app, Kerboodle and Mathswatch.	 QofS – Responsibility & Reflection **Responsibility** – students are provided with an opportunity to attend revision every week from September. They need to take a responsible approach to revision from the beginning of the year and support is provided for all. **Reflection** – students are encouraged to reflect on every practice exam performance through the use of an exam PLC.	 QofS – Practice & Resiliency **Resiliency** – students are encouraged to tackle a multitude of A03 style questions in which they have to solve multi-step problems which require resiliency. **Practice** – Using their exam PLC, students should identify areas of strength and weakness and use PiXL Maths app and Mathswatch to practise key skills.