Subject:	Mathematics Intent:
MATHEMATICS [Core pathway]	The Maths department aims to challenge and inspire students to build logical, independent thinking skills, enabling a strong mathematical foundation to develop for every student, supporting success throughout the curriculum and throughout life.

The Big Questions…

Year 7	Year 8	Year 9
September-December: - What is the most effective way to present information? How does the number system work and what operations can be performed? What is the best estimation to use? How does algebra help to find an unknown quantity? When a 2D/3D shape is broken up what can be derived from the parts? **January-April:** - Is '3 for 2' really a good deal? How do you define the pattern in a sequence of numbers? How do all the different units of measurement link with each other? What length is a road, given the map and a scale? What information can be derived about angles in a quadrilateral? How can a shape be transformed using mathematical rules? **May-July:** - How do you interpret graphs showing two pieces of data? What are the key facts that can be inferred from a set of data? How likely is an event to happen given a specific set of circumstances? What are factors/multiples and prime numbers?	**September-December:** - Do the key number skills work with larger/smaller and more complex numbers? What is the most appropriate way to estimate a number? Can a compass be used to draw a perpendicular line? How does algebra help us find unknown values? How many ways can you express the same number? **January-April:** - How do you compare different quantities? What is the relationship between unknowns in a formula? How do speed/distance and time interact with each other? What are the formulae for calculating the area and volume of common shapes? How do you find the size of angles in a polygon? **May-July:** - What part do coordinates play when drawing a graph? What is the most appropriate way to collect and display data? What is the most appropriate average to use given a certain situation? How do you calculate the length of a side of a right-angled triangle? What is the likelihood of something happening?	**September-December:** - What are the relationships between mathematical operations and the different representations of numbers? How do you provide a realistic estimate? What would you use the LCM for? How many facts can you derive from a polygon? What industry uses bearings? What is the link between coordinates and linear graphs? **January-April:** - How do you state the change in a value in a consistent way for comparison? How do you accurately calculate the area of complex shapes? How do you interpret two quantities that are in direct proportion to each other? What is the likelihood of an event happening given a specific set of circumstances? How do you state very large and very small numbers? **May-July:** - Given the final value what was the original amount? How many ways can a shape be transformed?

What skills will I develop?

In addition to the key Mathematical knowledge that students will master, a sound understanding of Mathematics will also develop logical thinking skills that enable the solving of the more complex problems that life throws at us. Mathematics underpins much of the world around us and forms the basis of the knowledge needed to be successful both in education and beyond. Students are coached on techniques to break a problem into smaller more manageable parts and encouraged to transfer the skill they have learnt in the Maths class to other areas of the curriculum.

How will I be assessed?

Each week homework will be set, with details on SMHW. Students' knowledge of a topic will be assessed using the results of this work. At the end of some topics there will be a Topic Assessment. Students will know in advance and will be expected to prepare well. The assessments are open book and students may use their classwork or revision notes in these tests. End of year exams will take place in every year to assess progress and provide specific areas for improvement for every student. This gives everyone the opportunity to achieve their best.

What great resources can I use?

- https://www.mymaths.co.uk/ - on-line lessons on every Maths topic with linked practice questions. Marked on-line so students get instant feedback. (Often used for homework)
- https://www.mathsworkout.co.uk/ - lots of practice on all the key topics in years 7-9, useful for practising those new skills.

Three ways that parents/carers can help…

1. Ensure your child has all the Maths equipment that may be needed at all times. At any point a calculator, ruler, compass, protractor, pencil or rubber could be required in a Maths lessons.
2. Encourage your child to approach their Maths homework as an opportunity to ensure they have a good understanding of that specific topic, completing it with plenty of time to get help.
3. Students are encouraged to select areas for improvement following every topic assessment. Ask your child what topics they have chosen and let them describe what they have done to ensure their understanding has improved. This should involve 'doing' some Maths.