FARINGDON COMMUNITY COLLEGE

Year 9 Mathematics – Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	Indices & standard form Algebra – Expressions & Formulae	Statistics - dealing with data Multiplicative reasoning	Constructions Equations, inequalities & proportionality	Circles & Prisms Pythagoras	Sequences & graphs Probability	Congruence & similarity GCSE course commences with Number Skills
Key Knowledge	Calculate with integer and fractional indices. Calculate with and interpret standard index form. Substitute into formulae and expressions. Simplify and manipulate algebraic expressions. Expanding products of two or more brackets. Factorising quadratic expressions.	Construct and interpret diagrams for grouped discrete data and continuous data, for example histograms and cumulative frequencies. Use statistics to describe a population. Express a multiplicative relationship as a fraction or ratio. Use compound measures.	Use scale factors, scale diagrams and maps. Use ruler, protractor and compass constructions to find a perpendicular bisector of a line segment, bisect an angle and accurately draw triangles. Interpret and solve loci problems. Construct and interpret 3D plans and elevations. Solve equations.	Identify and apply circle definitions and properties. Understand circle formulae, including area and circumference calculations. Calculate arc lengths, angles and areas of sectors. Know the formulae for Pythagoras' theorem. Apply and interpret limits of accuracy., including upper and lower bounds.	Plot linear graphs and identify parallel and perpendicular line equations. Identify and determine roots, turning points and intercepts for quadratic graphs. Recognise and sketch graphs of non-linear functions. Record, describe and analyse the frequency of outcomes for probability experiments.	Use congruence criteria for triangles. Identify, describe and construct congruent and similar shapes by considering rotation, reflection, translation and enlargement. Use number skills to problem solve. Calculate with powers, including zero, fractional and negative indices. Use standard index form.

Further information and reading list

- Our Key Stage 3 programme links in prepare students for the Edexcel examination syllabus for GCSE mathematics.
- There are a range of support books and revision guides available for KS3 maths for example CGP, or Letts & Collins.
- Sparx Maths homework platform has help videos for students on all topics. These are accessed with the homework questions or independently using the independent learning button from the Sparx Maths homescreen.
- Useful websites for Year 9 are:
- https://corbettmaths.com/contents/, https://classroom.thenational.academy/subjects-by-key-stage/key-stage-3/subjects/maths (Oak Academy, KS3, Maths) https://www.bbc.co.uk/bitesize/subjects/zqhs34j (bbc bitesized, KS3, maths).

Ways to support and extend student learning in this subject

- Support Guidance:
- Students need to be secure in their timetables knowledge which underpins mathematical methods. Continue to practice these at home, or utilising programmes such as TT Rockstars, which will help with students build confidence in mathematics. There is a regular timetable question support available as part of Sparx Maths homework platform for all year 9 students.
- Have fun with maths! There are lots of games which work on mental maths, for example card games or darts.
- Access support videos and additional question practice through the school's subscription to MathsWatch.
- Ensure that Sparx Maths compulsory homework is being completed and use the XP boost button for extra practice questions together with the independent learning button to look forward to what is coming next in class and get a head start.
- High-achieving guidance:
- Utilise the Sparx Maths Target button to provide extension and challenge questions in addition to the compulsory homework set each week.
- Students can use corbettmaths.com videos and worksheets section to practice some GCSE style questions for each topic (use ctr + f to help find what they are looking for and topics are listed alphabetically).