Maths

LET ALL OUR BRIGHT COLOURS SHINE

Year 11

Curriculum Map

Year 11 – Autumn Term

Prior Learning	All of the previous topics build upon prior learning done in year 10 and also in key stage 3. To be able to understand the new learning on *graphs,* pupils will have covered the basic skills of drawing straight line graphs in year 9. They will have previously studied using graphs during year 8. Pupils will have seen the basics of solving equations and inequalities in year 9. Whilst some of the basics of expanding brackets will have been covered during year 8.
What will I learn?	Pupils will begin the term learning all about *graphs*, starting with gradients and lines, followed by looking at non-linear graphs, before finishing with using graphs. The second half of the autumn term will be spent looking at *algebra*, with pupils studying the topic of expanding and factorising, before moving on to changing the subject, and finishing with functions. Each of the topic areas are broken down into small steps of key skills and knowledge for pupils to master. Topics from the first half of the autumn term, year 10 and key stage 3 will be interleaved during the retrieval practice in second part of the term.
How will I be assessed?	Pupils are assessed in 3 ways:- • Constant lesson by lesson assessment. • Six mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the autumn term, and recalling previous knowledge from key stage 3.
Next Steps	Pupils will move on to looking at the following revision topics in the spring term: Reasoning; Revision and Communication. This will help pupils to revise units of number, algebra, geometry and data handling, which will build upon the topics in the autumn term of year 11, year 10 and the learning from key stage 3. The concepts from this term will be built upon further in the revision programmes as pupils make progress their GCSE examinations.
Opportunities for Independent Learning	Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize Maths Genie ExamQ
Personal Development and CEIAG	The skills gained from working with algebra can be used by Chemists; Physicists; Astronomers; Cryptologists as well as Mathematicians. Graphs could be used by careers such as Economists and Architects. Solving equations and inequalities could be used by Financial Analysts or Scientists.
Enrichment Opportunities (Cultural Capital)	Using algebra in everyday life, eg formula for cooking time. Using graphs in everyday life, eg using conversion graphs for currencies Using equations in everyday life, eg finding how long to cook a turkey

	Year 11 – Spring Term
Prior Learning	All of the previous topics build upon prior learning done in year 11, year 10 and also in key stage 3. To be able to understand the new learning on *reasoning* pupils will have covered the basic skills of proportions in year 9. They will have previously studied angles during years 8 and 10. Pupils will have seen the basics of sequences in year 7, 8 and 10. The work in the second half of the spring term is revision work that will have a basis in the work that pupils have covered in years 7, 8, 9 and 10.
What will I learn?	Pupils will begin the term learning all about *reasoning*, starting with multiplicative reasoning, followed by looking at geometrical reasoning, before finishing with algebraic reasoning. The second half of the spring term will be spent looking at *revision and communication*, with pupils studying the topic of transforming and constructing, before moving on to listing and checking, and finishing with show that…. Each of the topic areas are broken down into small steps of key skills and knowledge for pupils to master. Topics from the first half of the autumn and spring terms, year 10 and key stage 3 will be interleaved during the retrieval practice in second part of the term.
How will I be assessed?	Pupils are assessed in 3 ways. • Constant lesson by lesson assessment. • Practice Papers will be used to revise for the final GCSE examinations. • The GCSE in Mathematics will be delivered through three papers during May and June. Each examination will last for one and a half hours.
Next Steps	All the concepts and skills that have been taught throughout the five years of secondary school will be tested via the end of Key Stage 4 GCSE examinations. Mathematics has two tiers of entry, Foundation and Higher. The Foundation Tier examination allows pupils to secure Grades 5 – 1. The Higher Tier examination allows pupils to secure Grades 9 – 4. Each tier is tested over three papers, and the grade will be awarded for the total score from all three papers.
Opportunities for Independent Learning	Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize Maths Genie ExamQ
Personal Development and CEIAG	The skills gained from working with algebra can be used by Chemists; Physicists; Astronomers; Cryptologists as well as Mathematicians. The skills gained from working with geometry could be used by Plumbers; Game Developers; Engineering; as well as in the Transportation Industry. The skills gained from working with data could be used by Actuaries; Data Analysts; Warehousing; Architects; Human Resources as well as Business Strategists.
Enrichment Opportunities (Cultural Capital)	Using number in everyday life, eg budgeting from a wage. Using algebra in everyday life, eg calculating costs involving fixed and variable costs. Using geometry in everyday life, eg finding the area of a floor for covering. Using data in everyday life, eg reading charts and graphs from newspapers and online sources.