Maths

LET ALL OUR BRIGHT COLOURS SHINE

Year 9 Curriculum Map

Year 9 – Autumn Term

Prior Learning	All of the schemes build upon prior learning done in key stage 2, year 7 and year 8. To be able to understand the new learning on *reasoning with algebra* pupils will have covered the basic skills of coordinates and graphs in year 8. They will have previously studied brackets and equations in the spring term of year 8. To be able to understand the new learning on *constructing in 2 & 3 dimensions* they will have covered the areas of shapes during the summer term of year 8. Pupils will have studied using protractors and compasses in year 6, and these skills will have been refined during the summer term of year 7.
What will I learn?	Pupils will begin the term learning all about *reasoning with algebra*, starting with straight line graphs, followed by looking at forming and solving equations, and finishing with testing conjectures. The second half of the autumn term will be spent looking at *constructing in 2 & 3 dimensions*, with pupils studying the topic of three-dimensional shapes, before moving on to constructions and congruency. 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 and year 7 & 8 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. • Five mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the spring term, and recalling previous knowledge from key stage 2, years 7 & 8 and the autumn term.
Next Steps	Pupils will move on to looking at the following topics in the Spring term: *Reasoning with number,* and *Reasoning with geometry.* This will introduce pupils to new units of number and geometry, but also build upon the topics in the autumn term of year 9 and the learning from years 7 and 8. The concepts from this term will be built upon further in year 9 half term 4 - Deduction; year 10 half term 1 - Congruence, similarity and enlargement; year 10 half term 2 - Representing solutions of equations & inequalities.
Opportunities for Independent Learning	Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize
Personal Development and CEIAG	The skills gained from working with algebra can be used by Chemists; Physicists; Astronomers; Cryptologists as well as Mathematicians. Numeracy is an essential life skill, understanding number is an integral part of everyday life both at work and at home. Surface area is used by Painters; Dentists; and Chemists. Volume is used by Scientists and by the Construction Industry. Plans and elevations are used by Architects.
Enrichment Opportunities (Cultural Capital)	Using algebra in everyday life, eg formula for cooking time. Using area in everyday life, eg how much paint is needed to cover a wall Using volume in everyday life, eg filling a car with fuel

	# Year 9 – Spring Term
Prior Learning	All of the schemes build upon prior learning done in key stage 2; year 7, year 8 and the work completed in the autumn term of year 9. To be able to understand the new learning on *reasoning with number* pupils will have covered the basic skills of fractions during year 7 and year 8. To be able to understand the new learning on percentages they will have covered the basics of percentages during the spring terms of years 7 and 8. Some of the percentage skills acquired in year 8 will be used in the Maths & Money topic. Angle rules learned in the summer term of year 7 will help with the topic of Deduction. The basic skills of Translation are first studied in year 6. Using square numbers and square roots from autumn term year 7 and spring term in year 8 will underpin the introductory work on Pythagoras' Theorem.
What will I learn?	Pupils will begin the term learning all about the *reasoning with number*, starting with numbers, followed by looking at using percentages, before finishing the half-term looking at maths & money. The second half of the Spring Term will be spent looking at *reasoning with geometry*, with pupils looking at both 'deduction', followed by rotation and translation, before finishing the term with Pythagoras' Theorem. 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 and years 7 and 8 will be interleaved during the term within the retrieval practice.
How will I be assessed?	Pupils are assessed in 3 ways. • Constant lesson by lesson assessment. • Five mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the Spring term, and recalling previous knowledge from key stage 2, years 7 & 8 and the autumn term.
Next Steps	Pupils will move on to looking at the following topics in the summer term of year 10: *Reasoning with proportion* and *Representations.* This will introduce pupils to new units of geometry; ratio and proportion and probability but also build upon the topics from the previous two terms. The concepts from this term will be built upon further in year 10 half term 1 - Congruence, similarity & enlargement; year 10 half term 4 - Ratios & Fractions; year 10 half term 4 - Probability. Other topics will be revisited at different points in the GCSE course.
Opportunities for Independent Learning	Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize
Personal Development and CEIAG	People working in the financial sector would use percentages and interest rates. These skills are also important for homeowners to understand. Fractions are used by Caterers, and in the Financial Sector. Rotation and translation are skills that would be used by Architects and designers.
Enrichment Opportunities (Cultural Capital)	Using interest rates in everyday life, eg banking. Using translation in everyday life, eg wallpaper. Using Pythagoras in everyday life, eg roof on a building.

	Year 9 – Summer Term
Prior Learning	All of the schemes build upon prior learning done in key stage 2; years 7 and 8 and the work completed in the autumn and spring terms of year 9. To be able to understand the new learning on *reasoning with proportion* pupils will have covered the work in multiplying numbers from the autumn term of year 7. To be able to understand the new learning on ratio and proportion they will have covered work on ratio in Year 8. Work on fractions and division from year 7 will aid to help with average speed. Probability work from years 7 and 8 will help with the new learning in this term.
What will I learn?	Pupils will begin the term learning all about *reasoning with proportion*, starting with enlargement & similarity, followed by looking at solving ratio & proportion problems, before finishing the half term with rates. The remainder of the summer term will be spent looking at *representations*, with pupils looking at probability before going on to look at algebraic representation. 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 will be interleaved during the term within the retrieval practice.
How will I be assessed?	Pupils are assessed in 3 ways. • Constant lesson by lesson assessment. • Five mini assessments on each of the areas of study highlighted above. • One large summative assessment covering all of the key knowledge from the spring term, and recalling previous knowledge from key stage 2, years 7 & 8 and the autumn and spring terms.
Next Steps	Pupils will move on to looking at the following topics in the autumn term of year 10: *Similarity* and *Developing Algebra.* This will introduce pupils to new units of geometry; ratio and proportion and probability but also build upon the topics from the previous two terms. The concepts from this term will be built upon further in year 10 half term 1 - Congruence, similarity & enlargement; year 10 half term 4 - Ratios & Fractions; year 10 half term 4 - Probability. Other topics will be revisited at different points in the GCSE course.
Opportunities for Independent Learning	Sparx Maths – Compulsory Tasks (1 Hour per week) Sparx Maths – XP Boost and Target Homework Activities. BBC Bitesize
Personal Development and CEIAG	Work with ratios can be used in the Banking and Financial Sectors. Also, Cartographers; Architects and Scientists would use the work on ratios as well. The concepts used in speed and density would be used by Scientists, and those in the Haulage industry. Probability is a skill that can be used by Biologists and those in Environmental Science; Engineers; Aviators; Actuaries; and Meteorologists.
Enrichment Opportunities (Cultural Capital)	Using enlargement in everyday life, eg zooming in and out on a photo on a phone. Using speed in everyday life, eg journeys to school/work. Using probability in everyday life, eg games using dice or cards.