OVERVIEW

In the Year 9 curriculum students study topics from four key strands of mathematics: Number, Algebra, Geometry and Ratio & Proportion. Each strand builds on their prior learning from Years 7 and 8. We focus on developing knowledge and skills in each of the four strands which students will then build on to solve problems and exhibit their mathematical reasoning.

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Unit 1: Decimal Manipulation – Addition, subtraction, multiplication and division of decimals.

Unit 2: Estimation and Limits of accuracy – Estimation, truncation, error intervals

Unit 3: Related Calculations

Unit 4: HCF and LCM of large numbers – Prime factor decomposition

Unit 5: Fraction Calculations – Add/subtract/multiply mixed numbers, fractions of amounts, dividing fractions and mixed numbers, writing one number as a fraction of another.

Unit 6: Algebraic manipulation – Multiplying algebraic terms, simplifying algebraic fractions, add/subtract/multiply and divide algebraic fractions

Unit 7: Index Laws – working with index laws

Unit 8: Expanding & Factorising – expanding and simplifying brackets, factorising an expression, expanding double brackets, factorising quadratics

Unit 9: Expressions & Substitution – forming expressions, substitution using integers, decimals, BIDMAS and fraction, substituting into formulae

Assessment:

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be at least 4 end of unit assessments during this term after every other unit.

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Unit 10: Percentages with calculators – Using multipliers, increase and decrease, reverse percentages, percentage change

Unit 11: Proportion – Unitary/Non-unitary method, best buys, recipes, exchange rates, inverse proportion

Unit 12: Probability – Scale and listing outcomes, single event probability, relative frequency, expected outcomes, frequency trees, sample space, Venn diagram.

Unit 13: Linear Equations – one and two step equations, subject in the denominator, negative unknowns, multistep equations, equations with brackets and fractions, unknowns on both sides, substituting and solving

Unit 14: Linear Inequalities – drawing on a number line, integer solutions, solving inequalities, solving double inequalities, solving negative inequalities

Unit 15: Sequences – Unique sequences, nth term

Unit 16: Pythagoras – Finding the hypotenuse, finding the shorter side, multistep Pythagoras and problem solving with Pythagoras

Assessment:

Mid-Year assessments will take place in January.

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be at least 4 end of unit assessments during this term after every other unit.

Sum

Unit 17: Interior/Exterior angles – Interior/Exterior angles of regular polygons, interior/exterior angles of irregular polygons, tessellation and problem solving with interior/exterior angles.

Unit 18: Parallel lines – Alternate angles, corresponding angles, co-interior angles, vertically opposite angles, solving multistep problems involving all four rules and algebra.

Unit 19: Basic Vectors – Drawing vectors, adding/subtracting vectors, multiplying vectors, resultant vectors, parallel vectors

Unit 20: Basic transformations – Rotation, reflection, translation, enlargement and a combination of these

Unit 21 Plans and Elevations – Plans and elevations of typical 3D shapes, plans and elevations of irregular 3D shapes, sketching 3D shapes from plans and elevations.

Unit 22: Circles – Circumference, arc length, revolutions, compound perimeter, area and parts, sector area, compound area

Unit 23: Surface Area – nets, cuboids, prisms, cylinders, cones, spheres

Assessment:

Students will be informally assessed every lesson using questioning, mini whiteboards and marking of independent work.

There will be at least 4 end of unit assessments during this term.

End of Year assessments will take place in June.

Useful resources for supporting your child at home:

Videos on Sparx (www.sparxmaths.uk)

Videos on Corbett Maths (Videos and Worksheets – Corbettmaths)

CGP KS3 revision guides/work books (KS3 Maths | CGP Books)

Homework:

Homework will be set on Sparx (www.sparxmaths.uk).

Homework will be set once a week and students are expected to complete 100% of their homework each week. Homework is bespoke for all students depending on their performance in previous weeks.

Should your child be struggling to access their homework – please encourage them to speak to their teacher.