Subject: Mathematics

Year 8

OVERVIEW

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

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Unit 1: Index Laws 1 – Index laws for addition, subtraction and powers of powers

Unit 2: Standard Form – Writing in standard form, multiplying/dividing with standard form, adding/subtracting with standard form

Unit 3: Prime Factorisation – Prime factors and prime factor decomposition

Unit 4: Fractions Calculations 2 – Mixed number calculations: add/subtract fractions with like/unlike denominators, multiplying fractions and dividing fractions

Unit 5: Equations 1 – Solving linear equations with four operations, solving multistep equations, solving equations with negative unknowns and equations with unknowns on both sides.

Unit 6: Straight Line Graphs – Straight line graphs, drawing straight line graphs, real life graphs

Unit 7: Angles in Parallel Lines – Alternate angles, corresponding angles, co-interior angles, vertically opposite angles, solving multistep problems involving all four rules and algebra.

Assessment:

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

There will be an End of Topic Review at the end of each unit.

Spr

Unit 8: Circles 1 – Properties of a circle, circumference, revolutions, perimeter of parts of a circle, area of a circle, area of parts of a circle

Unit 9: Compound Shapes – Area of a trapezium, calculating shaded areas, comparing areas, compound area,

Unit 10: Ratio 1 - writing ratios from diagrams, writing in the form 1:n, simplifying ratios, completing ratios, share into a given ratio, working between two ratios

Unit 11: Proportional Reasoning – Unitary/Non-unitary method, best buys, recipes, work rate problems, exchange rates, similar shapes

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 an End of Topic Review at the end of each unit.

Sum

Unit 12: Fractions, Decimals and Percentages – converting between FDP, ordering FDP

Unit 13: Percentage Calculations - Percentages of amounts (non calc/calc), percentage change, reverse percentages

Unit 14: Volume and Capacity – Converting between units of capacity and volume, volume of cubes and cuboids, basic prisms, compound prisms and cylinders

Unit 15: Representing Data 2 – Reading and drawing pie charts, stem and leaf diagrams

Unit 16: Averages and Range 2 – calculating the mean, reversing the mean, calculating the median, changing the median, mode and range, and problem solving

Assessment:

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

There will be an End of Topic Review at the end of each unit.

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.