Subject: Mathematics

Year 7

OVERVIEW

In the Year 7 curriculum students study topics from four key strands of mathematics: Number, Algebra, Geometry and Shape. Each strand builds on their prior learning from the KS2 programme of study. 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: Numerical Skills – Decimal place value, negative numbers, rounding, multiplication/division basics
Unit 2: Order of Operations – Multiply/divide before add/subtract, indices, roots and powers, calculations with brackets
Unit 3: Basic rules of Algebra – collecting like terms, simplifying expressions, solving one step equations (can extend to two-step)
Unit 4: Factors and Multiples – multiples and LCM, factors and HCF, using the HCF/LCM for worded problems
Unit 5: Expand and Factorise – Expand and simplify single brackets, dividing algebraic terms, factorising expressions, simplify algebraic fractions
Unit 6: Addition and Subtraction – Addition and subtraction using decimals
Unit 7: Perimeter – perimeter of 2D shapes, perimeter of compound shapes, understanding perimeter
Unit 8: Multiplication and Division – multiplication with integers, multiplication with decimals, division with integers, division with decimals
Unit 9: Area of 2D shapes – area of squares, rectangles, parallelograms, area of triangles, area of compound shapes

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: Fraction Manipulation – equivalent fractions, simplifying fractions, converting between improper fractions and mixed numbers
Unit 11: Adding and Subtracting Fractions – add/subtract fractions and mixed numbers with equal denominators, add/subtract fractions with unequal denominators, add/subtract mixed numbers with unequal denominators
Unit 12: Comparing and Ordering Fractions – comparing and ordering fractions, converting fractions to decimals, ordering fractions and decimals
Unit 13: Fractions of Amounts – fractions of amounts, fractions of amounts worded problems, finding the original amount
Unit 14: Substitution – substitution with positive integers, substitution with negative integers, substitution with decimals and fractions, substitution into real-life formulae
Unit 15: Angles – labelling, drawing and estimating angles, angles on a straight line, angles in a triangle, angles around a point, angles in a quadrilateral
Unit 16: Polygons – Naming polygons, properties of triangles, properties of quadrilaterals

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

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Unit 17: Symmetry and Reflection – Line symmetry, rotational symmetry

Unit 18: Transformations – rotation, reflection, translation, enlargement

Unit 19: Plotting co-ordinates – plotting co-ordinates, reading co-ordinates, plotting co-ordinates to form shapes

Unit 20: Straight line graphs – plotting straight line graphs (this can be extended over 2/3 lessons)

Unit 21: Two-way tables and Venn Diagrams – reading two way tables, completing two way tables, venn diagrams (single and multiple intersections)

Unit 22: Statistical Diagrams – Data tables frequency and interpreting, bar charts, line graphs, reading and drawing pie charts

Unit 23: Averages – mode, median and range, mean, problem solving mean, reversing the mean

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.