



# Year 8 Maths

Curriculum Leader: Mr James McKenzie-Laverty

The Mathematics Curriculum Team have high expectations and aspirations for all of their students. Our vision is to develop students who have the resilience, adaptability and mathematical skills necessary for modern life and to instil in them an enthusiasm for the subject and a confidence in their own ability.

We want our students to develop an understanding that mathematics is important in everyday life and to provide them with a set of tools that will help them to reach aspirational targets through use of number, problem solving, logical reasoning, thinking in abstract ways and with creativity. We will encourage them to apply these skills across all subjects and to the real world.

## Topics to be covered in Year 8

|                                                       | Term 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Term 2 | Term 3 |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|
| <b>Topics to be covered</b>                           | A selection of these topics will be covered throughout the year, as appropriate to the strength of prior learning and progress made, returning to them as necessary to build deeper understanding and applications. Students may also have topics from Year 7 covered again if it becomes apparent that there is need of remedial action to ensure understanding.<br><br>Calculator skills will be covered in every topic in every year. Algebra will be included in most topics and problem solving to solve reverse questions will be introduced to develop thinking skills.<br><br><b>Number:</b> fractions, decimals, BIDMAS, Number facts, rounding<br><b>Algebra:</b> Forming and generating sequences, solving equations, introduce inequalities, substitution<br><b>Ratio:</b> Unitary method, compound measures, time calculations<br><b>Shape:</b> Area and volume, nets, plans and elevations, properties of shapes, circles, constructions and loci, graphs, transformations, congruence<br><b>Statistics:</b> types of data, Venn diagrams, 2-way tables, stem and leaf, scatter diagrams, probability, averages and range from a table, data collection, comparison, sample spaces<br><br>The topics will be tackled in such a way, then previous topics will lead into new ones, developing understanding further. |        |        |
| <b>Key vocabulary</b>                                 | Add, subtract, multiply, divide, positive, negative, brackets, indices, multiple, factor, fraction, decimal. equivalent, decimal place, significant figure, percentage, compare, order, numerator, denominator<br><br>Expression, term, equation, solve, sequence, substitution, plot, coordinates, unknown, variable, inverse operations, less than, greater than, inequality<br><br>Ratio, share, timetable, minutes, hours, seconds, scale, unitary, compound, speed, distance, density, mass, volume<br><br>Metric units, imperial units, perimeter, area, volume, triangle, quadrilateral, construction, tessellation, angle, degree, net, plan, elevation, parallel, perpendicular, right angles, lines of symmetry, rotation symmetry, equal length, regular, plane, views, radius, circumference, diameter, arc, chord, sector, segment, pi, locus, loci, protractor, compasses, axes, intersection, reflection, rotation, translation, enlargement, congruent, similar<br><br>Probability, likelihood, event, likely, evens, unlikely, pictogram, key, questionnaire, leading, mean, median, mode, range, outcome, 2 way table, Venn diagram, stem and leaf, scatter diagram, line of best fit, outlier, frequency, sum, sample space                                                                                    |        |        |
| <b>Skills to be developed</b>                         | Communication skills, written formal mathematical explanation, verbal explanation, using correct terminology.<br><br>Team skills through both individual and collaborative work.<br><br>Resilience, reasoning and problem-solving skills through work which stretches and challenges.<br><br>Planning, analysis and interpretation skills.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |        |
| <b>Opportunities for revisiting previous learning</b> | The topics in Year 8 build on the work completed in Year 7, developing these skills further and deepening understanding.<br><br>Specific skills will be interleaved into the learning at relevant points and in homework and starters.<br><br>This includes Year 7 topics such as:<br><br>Knowing the times tables, calculations, types of number, ordering values, BIDMAS, money, fractions, decimals and percentages, calculator skills, Forming and solving equations, sequences, coordinates, sharing in a ratio, time, reading scales, measuring, perimeter and area, construction of shapes, tessellation, properties of quadrilaterals, Probability, pictograms, pie charts, questionnaires, averages and range, listing outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |        |

|                                                            | Term 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Term 2 | Term 3 |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|
| <b>When will formal assessment of progress take place?</b> | <p>Students are assessed regularly both informally through questioning in lessons and formally via Mid-Year and End of Year examinations which include topics studied from the scheme of work plus some which may be unknown, in order to allow the students to demonstrate ability to apply their skills in both familiar and unfamiliar situations. Students are NOT expected to be able to complete all questions but are encouraged to “have a go”. Each assessment is analysed and feedback given to assist students to be more targeted in their efforts for further improvement. The student is responsible for acting upon the feedback given.</p> <p>Feedback is used continually in lessons in many forms, predominantly modelling, discussion, highlighting misconceptions and suggestions for improvement or extension.</p> |        |        |

## Year 8 Useful Resources

### Website Links:

<https://sparxmaths.com/> - Homework Site

<https://corbettmaths.com/> - Corbett Maths

<https://senecalearning.com/en-GB> - Seneca Learning

[www.blooket.com](http://www.blooket.com) - Blooket Learning

<https://www.mathspad.co.uk> - Extra Maths practice resource

## Marking, Assessment and Feedback

Over the course of an academic year students will complete a number of formal assessments, these will be used to assess where students are in their learning journey.

Information from these assessments could be used when making decisions regarding setting of students, reporting progress home and predicting outcomes. Current guidelines mean that we cannot provide as much detailed written feedback as it typical. As a result of this, we will during lessons, evaluate students' learning through a range of activities including quizzes, class discussions, detailed questioning and other strategies. Through this, students will know where they are in their learning journey and what they need to do next to make further progress.

Teachers will continue to provide planned written feedback on selected pieces of work.

## Homework

**We use a homework system called Sparx Maths. All Maths homework tasks will be set on here to submit online, with work in books to support. This will be expected to be an hour a week.**

Homework tasks are designed to prepare students for future learning or consolidate work completed in the classroom. Students are expected to spend an hour a week of time completing Maths homework independently. It will be clear what should be handed in, when it should be handed in and how it should be handed in.

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