Year 7 Mathematics

What your child will learn this year

Topics, in the order they are taught

	Topic	What it covers
1	**Transition lessons**	Bridging the gap from primary to secondary, making sure that every learner has the resources they need to make good progress across Key Stage 3.
2	**Place value, calculation and estimation**	Reading, writing and ordering whole numbers and decimals, the four operations, and rounding and estimating to check whether an answer is sensible.
3	**Sequences and algebraic thinking**	Spotting and continuing number patterns, describing the rule that produces them, and the first use of letters to stand for numbers.
4	**Expressions and equations**	Writing and simplifying algebraic expressions, and solving equations to find an unknown value.
5	**Averages and range**	Mean, median, mode and range: summarising a set of data, and choosing the measure that suits the situation.
6	**Graphing data**	Drawing and reading charts and graphs, choosing a suitable one, and describing what the data shows.
7	**Fractions, decimals and percentages**	How the three are connected, converting between them, and comparing and ordering them.
8	**Directed number**	Working confidently with negative numbers, including adding, subtracting, multiplying and dividing them.
9	**Fractions and percentages of amounts**	Finding a fraction or a percentage of a quantity, and working backwards to the original amount.
10	**Perimeter and area**	Measuring around and inside two-dimensional shapes, including compound shapes, and converting between metric units.
11	**Speed, distance and time**	Calculating with time, reading timetables, and the relationship between speed, distance and time.
12	**Properties of number**	Factors, multiples, prime numbers, squares and cubes, and finding highest common factors and lowest common multiples.
13	**Adding and subtracting fractions**	Equivalent fractions, simplifying, and adding and subtracting fractions with different denominators.
14	**Angles and polygons**	Measuring and drawing angles, angle facts, and the properties of triangles, quadrilaterals and other polygons.

Optional stretch and challenge

> Some classes work through the year's topics ahead of the rest. Where that happens, teachers draw on the topics below. These are optional: they are not required for this year, and no pupil is disadvantaged if their class does not reach them.

Topic	What it covers
Standard form	Writing very large and very small numbers compactly, as scientists do.

Topic	What it covers
The nth term of a sequence	Finding a rule that gives any term of a pattern directly, without working through it.
Introduction to probability	Describing and calculating how likely something is.
Transformations and symmetry	Reflecting, rotating and enlarging shapes.
Pythagoras' theorem	Finding a missing side in a right-angled triangle.
Writing a mathematical proof	Explaining why something is always true, rather than true in one example.

N.B. *Where a class is taught by more than one teacher, staff plan the sequence together so that each topic builds on what has already been covered. This sometimes means a topic is taught in a slightly different order from the one shown here. If you have any questions, your child's teacher will be happy to explain.*