Term by Term Objectives

Year 8

Year 8 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Revise & improve			Number – Fractions 2			Number – Percentages					Revise & Improve
Spring	Algebra 2							Geometry – Circles & Area				Revise & Improve
Summer	Ratio, proportion & rates of change						Statistics		Geometry – 3D shapes			Revise & Improve

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Term by Term Objectives

Year 8

Year Group	Y8	Term	Autumn

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Revise and improve</u> • Four operations • Order of operations • Negative numbers • Fractions • Algebra			<u>Number- Fractions 2</u> Multiply and divide proper and improper fractions and mixed numbers both positive and negative. • Fraction x Integer • Fraction x Fraction • Fraction ÷ Integer • Integer ÷ Fraction • Fraction ÷ Fraction • All of the above proper, improper, mixed, positive and negative. Find a fraction of an amount. Find the whole amount, given a fraction of the amount. Find a fractional increase and decrease.			<u>Number – Percentages</u> Define percentage as ‘number of parts per hundred’, interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express one quantity as a percentage of another, compare two quantities using percentages, and work with percentages greater than 100% This should include: • Define percentage as ‘number of parts per hundred’ • Interpret diagrams as percentages and vice versa • Interpret percentages as a fraction or as a decimal • Express one quantity as a percentage of another • Compare two quantities using percentages, and work with percentages greater than 100% E.g Claire got 16 out of 20 on a test, Simon got 21 out of 25 on a test. Who got the better score? • Interpret fractions and percentages as operators, with and without a calculator. Solve problems involving percentage change, including: • Percentage increase, decrease and original value problems and simple interest in financial mathematics.				Time at the beginning or end of the term for consolidation gap filling, seasonal activities, assessments, etc.

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Term by Term Objectives

Year 8

Year Group	Y8	Term	Spring

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Algebra 2</u> Substitute numerical values into formulae and expressions, including scientific formulae. • Include all prior learning specifically fractions, decimals and negatives Simplify and manipulate algebraic expressions to maintain equivalence by: • multiplying a single term over a bracket • taking out common factors • expanding products of two or more binomials. • simplifying expressions involving sums, products and powers, including the laws of indices . Use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) • Include equations with brackets • Include fractional equations Understand and use the concepts and vocabulary of inequalities. • Represent the solution set to an inequality on a number line and vice versa • Find the integer solutions of an inequality. • Solve linear inequalities in one variable. Rearrange formulae to change the subject, where the subject appears once.							<u>Geometry – Circles and area</u> Convert between cm^2 and m^2 Derive and apply formulae to calculate and solve problems involving area of circles, composite shapes and trapeziums. Calculate and solve problems involving perimeters of 2-D shapes (including circles). Include examples using algebra, fractions, decimals, etc.				Time at the beginning or end of the term for consolidation gap filling, seasonal activities, assessments, etc.

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Term by Term Objectives

Year 8

Year Group	Y8	Term	Summer

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Ratio, proportion & rates of change</u> Change freely between related standard units [for example time, length, area, volume/capacity, mass] Use ratio notation, including reduction to simplest form. Divide a given quantity into two or more parts. Given information about one part, find the whole or other part(s). Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction. Use compound units such as speed, unit pricing and density to solve problems. Solve problems involving direct and inverse proportion, including graphical and algebraic representations. Examples may include: • Recipe problems • Best buy problems • Exchange rates Draw and interpret pie charts.						<u>Statistics</u> Construct and analyse stem and leaf diagrams, including back to back. For non-grouped data given in the form of a table, find the mean, median, mode and range.		<u>Geometry – 3D shapes</u> Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D. Convert between cm^3 and m^3 Know and use the fact that 1 litre = $1000cm^3$ Derive and apply formulae to calculate and solve problems involving volume and surface area of cuboids (including cubes) and other prisms (including cylinders). Construct and interpret plans and elevations of 3-D shapes.			Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.

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