Maths

Year 7

Curriculum Overview

THE HART SCHOOL
Creative Education Trust

Intent: During year 7, students will develop what they learnt in key stage 2 and build upon their knowledge across a range of topics listed below. Students will learn how to apply the maths they are learning into a range of different contexts. Students will develop skills which they will practise and apply to problems and reasoning. This will enable learner to be successful within their subject and find the enjoyment in maths.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	Assessment 1			Assessment 2		
Core Course Topic: These topics are taught through the identified terms. They are taught in small bitesize chunks and revisited regularly.	**Integer Number Structures** • Basic number and place value • Multiples, factors, roots, powers and primes • Types of numbers • Order of operations • Directed numbers • Rounding and estimation	**Introducing Algebra** • Algebraic Notation • Simplifying expressions • Solving simple equations	**Measurements** • Properties of 2D and 3D shape (including symmetry) • Time • Metric conversions • Properties of angles • Construction of basic 2D shapes	**Numerical Representations** • Decimals • Fractions • FDP • Percentage • Powers and roots • Prime factor decomposition • HCF and LCM	**Formulae and Sequences** • Substitution and formulae • Functions • Sequences	**Area and Transformations** • Areas of 2D shapes • Transformations 2D of shapes including enlargement.	**Introducing Ratio** • Ratio notation • Relationship between fraction and ratio • Sharing in a ratio
Additional support links:	Sparxmaths is a platform which students use to complete their maths homework. There is also independent practise on there for the students to complete. Here is the year 7 revision list for the assessements with the sparx codes (students need to be logged in to access this) Link					
Knowledge: Included here is the specific knowledge your child will learn in detail	Students will learn to: • understand the structure of numbers, • add, subtract, multiply and dividenumbers • work with negative numbers • will apply the order of operations (BIDMAS)	Students will learn to: • write expressions with algebra • form and solve basic equations • collect like terms	Students will learn to: • describe types of polygons • identify rotational and line symmetry • find missing angles around a point, straight line, triangles and quadrilaterals • measure and draw angles	Students will learn to: • write a number as a product of prime factors • find the percentage of an amount • percentage increase & decrease • add, subtract, multiple and divide fractions	Students will learn to: • substitute into key formulae from science and maths • find the rules of sequences and missing terms • find the nth term of a sequence	Students will learn to: • calculating the area of shapes • use formulae for finding area of shapes • reflect, rotate, translate and enlarge shapes by a scale factor	Students will learn to: • write in ratio notation • explain what a ratio is • simplify a ratio • write ratio as a fraction • share amounts into ratio
Common Lexicon: These are the key words and terms learnt. These can be found on knowledge organisers.	Significant figures, decimal places, base, indices.	Expressions, formulae, term, identify, equations, inequalities, solve, represent.	Names of polygon, types of angles, metric measures.	Increase, decrease, depreciate, numerator, denominator, prime numbers, product	Substitution, formulae, simplify, express.	Area, shape names, rotate, reflect, translate and enlarge.	Area, shape names, tessellation, rotate, reflect, translate and enlarge.
Ambition Curriculum	**Real World** Link to finance, weather	**Real World: Life Skills**	**Real World** Measurement of real-life, conversions in medicine careers, links to	**Aspirations: Careers**	Use of real-life formulae in context, patterns in	**Real Life- British Values** Link to real –life	Real life links between patterns and numbers.

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	with negatives, and overdrafts. Historical and cultural links to number systems taught: History of negatives Use of fractions in Victorian times with money Link Other number systems from history link Origin of the number 1 Video link Fermi- estimation Video link	Links to real application of formulae in shops and for calculating costs. **Aspirations: Careers** Link to formulae used in science	careers with area and angles. Introduction to Euler's theories and Four Colour Theorem Link History of measuring time and early calendars Link Link	Link to percentages in finance. Discussion around career pathways History of Fractions, where did they come from, use of hieroglyphics Link	**Aspirations: Careers** Pinhole camera to look at coordinates of a point- link to Astronomy link Fibonacci and his work link The number mysteries with Marcus du Sautoy video	patterns in religion and history. Tessellation in Islamic art link	Proportion links to pay and wages. Tuning and ratio- link to music Link: To understand how the notes are tuned in modern pianos, and why this system of tuning has been adopted, you need to understand the relationship of the intervals between the notes to the mathematical concept of logarithms.