

MATHEMATICS SCHEME OF WORK

Subject	Mathematics	Year	7	Key stage	3	Hours/week	3
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Y7

Pearson: KS3 Maths Progress – Delta 1

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Week	Focus	Detail
	1 Analysing and displaying data	
0	Two-way tables	Construct and interpret two-way tables; Interpret and draw dual bar charts and compound bar charts;
1	Statistical averages	Find the mode, median, mean and range for a set of data; Choose the most appropriate average for a set of data.
2	Grouped data	Compare sets of data using averages and the range; Group discrete and continuous data; Draw and interpret grouped frequency diagrams;
3	Interpreting graphs	Interpret and draw line graphs; Draw and interpret pie charts; Recognise when a graph is misleading.
4	Bivariate data	Draw scatter graphs; Describe the correlation between two sets of data; Draw a line of best fit and use it to estimate values.
	2 Number skills	
5	Factors, primes and multiples	Understand the difference between multiples, factors and primes; Find all the factor pairs of any whole number; Find the HCF and LCM of two numbers. Add, subtract, multiply and divide positive and negative numbers; Divide a 3-digit integer by a single or 2-digit integer.
6	Roots and powers	Use index notation for squares and square roots; Calculate with squares and square roots; Carry out calculations involving squares, cubes, square roots and cube roots; Use factorising to work out square roots and cube roots.
	Half Term holiday	
7	Text-based problem solving	Solve word problems using square roots and cube roots; Estimate answers to complex calculations; Carry out calculations involving brackets.
8		
	3 Expressions, functions and formulae	
9	Forming and simplifying expressions	Simplify expressions by collecting like terms; Construct expressions using four operations; Substitute into formulae; Derive formulae from a description; Expand expressions involving brackets.
10	Substituting Factorising	Substitute into expressions involving powers; Factorise an algebraic expression.
	4 Fractions	
11	Comparing and simplifying Fractions of amounts Conversion of fractions	Compare and simplify fractions; Write one number as a fraction of another; Work out simple fractions of amounts; Write an improper fraction as a mixed number; Add and subtract fractions.
12	Equivalent fractions, decimals and percentages	Work with equivalent fractions, decimals and percentages; Use division to write a fraction as a decimal; Work out fractions of amounts.
13		

	Christmas holiday	
14		
15	Multiply and divide fractions Four operations with mixed numbers	Divide an integer and a fraction by a fraction; Multiply a fraction by a fraction; Add and subtract mixed numbers.
16	Time as a fraction	Enter time as a mixed number into a calculator; Multiply and divide a mixed number.
	5 Decimals	
17	Order decimals Add, subtract and multiply decimals Round to decimal places	Write decimals in ascending and descending order; Round to decimal places; Add and subtract decimals; Multiply a decimal by an integer; Use place value to multiply decimals.
18	Divide by decimals Convert between decimals, percentages and fractions	Divide a decimal by a whole number; Divide a number by a decimal; Convert between fractions decimals and percentages; Compare different proportions using percentages.
19	Work with percentages	Calculate percentages with and without a calculator; Calculate percentage increases and decreases; Work backwards to solve a percentage problem.
	Half term holiday	
	6 Perimeter, area and volume	
20	Areas of triangles, parallelograms and trapezium	Convert between metric and imperial units; Use metric units; Calculate the area of triangles; Calculate the area of parallelograms; Calculate the area of trapeziums.
21	Areas and perimeters of compound shapes Identify and create nets of common 3D shapes	Calculate the perimeter of shapes made from rectangles and triangles; Calculate the area of shapes made from rectangles and triangles; Identify nets of different 3D shapes.
22		
23	Calculate surface area Calculate volume	Know the properties of 3D shapes; Calculate the surface area of a cube; Calculate the surface area of a cuboid; Calculate the volume of a cube; Calculate the volume of a cuboid.
24	Conversion of units associated volume.	Convert between different units of volume: cm^3 , ml and litres; Convert between metric measures for area and volume.
	7 Equations	
25	One and two step equations	Write and solve simple equations; Solve problems using equations; Write and solve two-step equations.
	Holy Week/ Easter holiday	
26	Complex equations	Write and solve equations that have brackets; Solve equations that include x^2 and x^3
27	Trial and improvement	Use trial and improvement to find solutions to 1 decimal place.
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	8 Angles and shapes	

30	Angles and parallel lines Line and rotational symmetry	Work out unknown angles when two or more lines meet or cross at a point; Work out unknown angles involving parallel lines; Describe the line and rotational symmetry of triangles.
	Half term holiday	
31	Proof of 180° in a triangle and 360° in a quadrilateral	Understand how to prove that a result is true; Use properties of a triangle to work out unknown angles; Use the properties of isosceles and equilateral triangles to solve problems; Describe the line and rotational symmetry of quadrilaterals.
32	Quadrilaterals and polygons	Describe the properties of quadrilaterals; Solve problems involving quadrilaterals; Work out the interior and exterior angles of a polygon.
	9 Ratio and proportion	
33	Writing and simplifying ratios Sharing in a given ratio	Write a ratio in its simplest form; Simplify a ratio expressed in fractions or decimals; Share a quantity in 2 or more parts in a given ratio.
34	Proportion Proportional reasoning	Understand the relationship between ratio and proportion; Solve simple word problems involving ratio and direct proportion; Solve simple word problems involving ratio and inverse proportion.
35	Solving problems using multiplicative reasoning The unitary method	Solve problems involving ratio and proportion using the unitary method; Write ratios in the form $1 : n$; Solve best buy problems.
36		