

Maths

PLC N°	PLC Level	Half Term 1
Rounding and Estimation		
1	Emerging	Understand place value (Ten Millions to millionths).
2	Developing	Be able to round values to a given place value including decimal places.
3	Secure	Be able to round to a given number of significant figures.
4	Secure	Be able to solve complex calculator problems and understand approximations.
Index Laws		
5	Emerging	Define squaring, cubing and rooting and be able to perform these operations mentally.
6	Emerging	Be able to write and interpret index form.
7	Emerging	Understand and use the power and root keys on a calculator.
8	Developing	Be able to calculate powers of 1-5 & 10 (without a calculator).
9	Secure	Calculate with numbers in index form using the laws for multiplication, division and brackets.
10	Mastered	Understand and be able to calculate with numbers with negative indices.
Standard Form		
11	Emerging	Be able to associate place value to powers of 10.
12	Emerging	Be able to multiply and divide integers and decimals by powers of 10.
13	Developing	Be able to convert between normal and standard form for very large numbers.
14	Secure	Be able to convert between normal and standard form for very small numbers.
15	Secure	Be able to calculate with numbers in standard form.
PLC N°	PLC Level	Half Term 2
Solving Equations		
16	Emerging	Understand a letter is used to represent a (variable) value. Understand basic algebraic notation and vocabulary.
17	Emerging	Be able to write maths 'sentences' including the use of brackets and fractions.
18	Emerging	Be able to form and solve one-step equations.
19	Developing	Be able to form and solve two-step equations.
20	Secure	Be able to solve equations with brackets and unknowns on both sides.
21	Secure	Be able to form and solve equations in context (e.g. area and perimeter/angles).
22	Mastering	Be able to solve equations with the unknown starting as a denominator.
Inequalities		
23	Emerging	Be able to order integers and decimals and use equality/inequality symbols.
24	Developing	Understand inequality symbols and be able to find integer solution sets.
25	Developing	Be able to draw and interpret inequalities on a number line.
26	Secure	Be able to solve inequalities without a change of sign.
27	Mastering	Be able to solve inequalities with a change of sign.
28	Mastering	Be able to solve inequalities with unknowns on both sides.
Algebraic Products		
29	Emerging	Be able to write and interpret index form.
30	Emerging	Be able to calculate with integers (positive and negative).
31	Emerging	Be able to perform prime factorisation on a calculator.
32	Emerging	Be able to find the HCF of 2 or more values.
33	Developing	Expand, simplify and factorise single sets of brackets including algebraic powers.
34	Developing	Expand double brackets including squared brackets.
35	Secure	Factorise $x^2 + bx + c$ including the difference of 2 squares.
36	Mastering	Factorise $ax^2 + bx + c$.
37	Mastery	Be able to expand triple brackets.

Rearranging Formulae		
38	Emerging	Understand the order of operations, inverses and related facts.
39	Developing	Be able to rearrange multiplicative relationships.
40	Secure	Be able to rearrange 2 step formulae (without brackets/powers/roots).
41	Mastering	Be able to rearrange 2 step formulae with brackets/powers/roots.
PLC N°	PLC Level	Half Term 3
Surface Area		
42	Emerging	Define perimeter, area and volume including associated units.
43	Emerging	Know and use vocabulary of 2D & 3D shapes.
44	Developing	Be able to find areas of rectilinear shapes.
45	Developing	Be able to find the area and circumference of a circle.
46	Developing	Define surface area and be able to find the surface area of cuboids.
47	Secure	Be able to find the surface area of prisms (not cylinders).
48	Mastering	Be able to find the surface area of cylinders .
49	Mastering	Be able to find the surface area of composite shapes.
Sequences		
50	Emerging	Recognise and find square, cube and triangular numbers.
51	Developing	Be able to find the nth term and generate terms of a linear sequence.
52	Developing	Be able to generate and find terms using a Fibonacci relationship.
53	Secure	Be able to describe and generate terms of geometric sequences.
Angles & Accurate Drawing		
54	Emerging	Understand and use shape notation for lines and angles (including AB and $\angle ABC$ notation).
55	Emerging	Estimate angles.
56	Emerging	Draw and measure angles accurately.
57	Developing	Construct accurate drawing of triangles (ASA, SAS, SSS).
58	Developing	Construct accurate drawings of quadrilaterals.
59	Secure	Be able to construct a quadrilateral given certain attributes.
Congruence & Similarity		
60	Emerging	Define all types of triangle and quadrilateral and be able to list their properties (including diagonals).
61	Developing	Recognise conditions for congruency (SSS, ASA, SAS, RHS) and be able to identify congruent triangles.
62	Developing	Define similarity and be able to find a scale factor.
63	Secure	Be able to find missing lengths in similar triangles.
PLC N°	PLC Level	Half Term 4
Y=mx+c		
64	Emerging	Be able to draw a correct set of axes with a correctly labelled continuous scale and plot/interpret coordinates in all 4 quadrants.
65	Emerging	Recognise and name horizontal and vertical lines, $y=x$ and $y = -x$.
66	Emerging	Be able to generate a table of values by substituting values into equations and formulae.
67	Developing	Be able to plot a linear graph from a table of values.
68	Secure	Understand the effect of changing the values of m and c.
69	Secure	Be able to find the gradient and intercept of a line and associate these values with its equation.
70	Mastering	Be able to state if a point lies on/above/below a line by using proportional reasoning. Find mid points.
Special Graphs		
71	Developing	Recognise and sketch the shapes of quadratic, cubic and reciprocal graphs.
72	Secure	Be able to plot a quadratic graph from a table of values.
73	Secure	Be able to plot a cubic graph from a table of values

74	Secure	Be able to plot a reciprocal graph from a table of values
Real Life Graphs		
75	Developing	Be able to use proportion to solve problems.
76	Developing	Be able to draw a conversion graph.
77	Secure	Link linear graphs to real life formulae and proportional values.
78	Secure	Interpret conversion graphs and be able to extrapolate values. Understand limitations of extrapolation.
79	Secure	Plot and interpret distance, time graphs.
80	Mastering	Plot and interpret speed, time graphs.
PLC N°	PLC Level	Half Term 5
Angles		
81	Emerging	Be able to find missing angles in geometrical diagrams using basic angle facts and properties of triangles and quadrilaterals.
82	Emerging	Define and identify parallel and perpendicular lines.
83	Developing	Identify where to find corresponding, alternate and allied angles and know their associated facts.
84	Secure	Solve multi-step problems in complex geometrical figures.
85	Mastering	Solve algebraic problems using parallel line angle facts.
86	Mastering	Construct a proof for sum of angles in a triangle.
Bearings		
87	Emerging	Be able to name and identify 8 main compass points.
88	Developing	Understand what a bearing is and what it is used for, correctly measure and draw bearings.
89	Secure	Be able to find a back bearing.
90	Mastering	Solve complex bearing problems using parallel line rules and other angle facts.
PLC N°	PLC Level	Half Term 6
Trigonometry and Pythagoras		
91	Emerging	Define squaring and rooting and be able to perform these operations mentally up to 15^2 and $\sqrt{225}$.
92	Developing	Define Pythagoras' Theorem and label right-angled triangles accordingly.
93	Developing	Prove if a triangle has a right angle.
94	Developing	Be able to find a hypotenuse.
95	Developing	Be able to find a shorter side.
96	Secure	Label a right-angled triangle for trigonometric use.
97	Secure	Recall and substitute values into Sine, Cosine and Tangent Formulae.
98	Secure	Be able to find a missing angle using trigonometric formulae.
99	Secure	Be able to find a missing side using trigonometric formulae.
100	Mastering	Solve 3D Pythagoras problems.
Direct & Inverse Proportion		
101	Emerging	Understand the difference between ratio and proportion and be able to convert between them.
102	Developing	Be able to write a ratio as a proportion equation.
103	Secure	Be able to find a constant of proportion 'k' and solve direct linear proportion problems (using an equation).
104	Mastering	Understand inverse proportion and be able to form and use an inverse proportion equation.
105	Mastering	Be able to solve direct proportion problems using squares, cubes and roots.