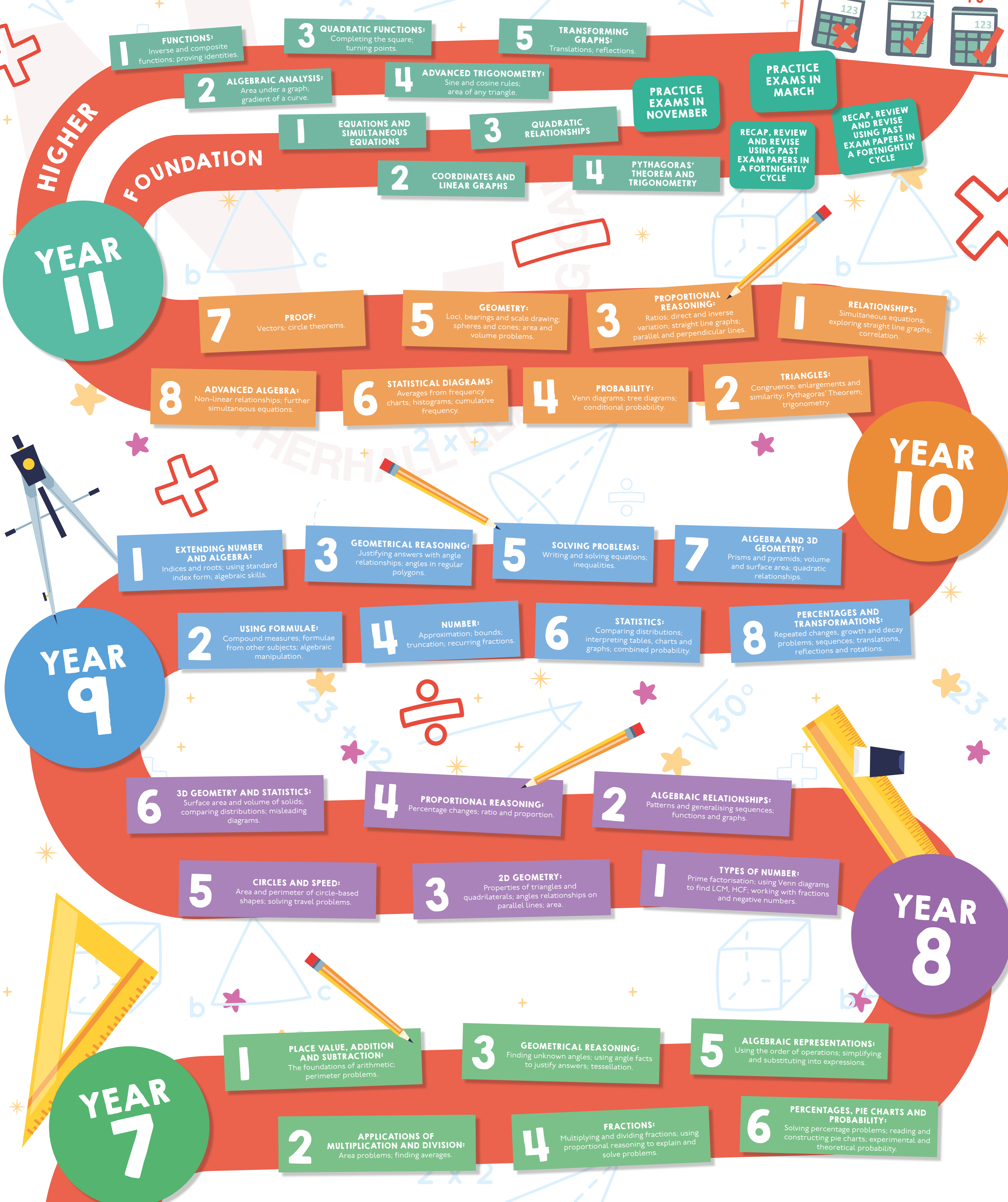


NLC MATHEMATICS LEARNING JOURNEY

NEXT STEPS:
ONTO HIGHER EDUCATION,
APPRENTICESHIP OR FULL TIME
EMPLOYMENT

GCSE EXAMS

PI 123
P2 123
P3 123



YEAR 11

YEAR 10

YEAR 9

YEAR 8

YEAR 7

1 FUNCTIONS:
Inverse and composite functions; proving identities.

3 QUADRATIC FUNCTIONS:
Completing the square; turning points.

5 TRANSFORMING GRAPHS:
Translations; reflections.

2 ALGEBRAIC ANALYSIS:
Area under a graph; gradient of a curve.

4 ADVANCED TRIGONOMETRY:
Sine and cosine rules; area of any triangle.

PRACTICE EXAMS IN NOVEMBER

PRACTICE EXAMS IN MARCH

FOUNDATION

1 EQUATIONS AND SIMULTANEOUS EQUATIONS

3 QUADRATIC RELATIONSHIPS

RECAP, REVIEW AND REVISE USING PAST EXAM PAPERS IN A FORTNIGHTLY CYCLE

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2 COORDINATES AND LINEAR GRAPHS

4 PYTHAGORAS' THEOREM AND TRIGONOMETRY



7 PROOF:
Vectors; circle theorems.

5 GEOMETRY:
Loci, bearings and scale drawing; spheres and cones; area and volume problems.

3 PROPORTIONAL REASONING:
Ratios; direct and inverse variation; straight line graphs; parallel and perpendicular lines.

1 RELATIONSHIPS:
Simultaneous equations; exploring straight line graphs; correlation.

8 ADVANCED ALGEBRA:
Non-linear relationships; further simultaneous equations.

6 STATISTICAL DIAGRAMS:
Averages from frequency charts; histograms; cumulative frequency.

4 PROBABILITY:
Venn diagrams; tree diagrams; conditional probability.

2 TRIANGLES:
Congruence; enlargements and similarity; Pythagoras' Theorem; trigonometry.

1 EXTENDING NUMBER AND ALGEBRA:
Indices and roots; using standard index form; algebraic skills.

3 GEOMETRICAL REASONING:
Justifying answers with angle relationships; angles in regular polygons.

5 SOLVING PROBLEMS:
Writing and solving equations; inequalities.

7 ALGEBRA AND 3D GEOMETRY:
Prisms and pyramids; volume and surface area; quadratic relationships.

2 USING FORMULAE:
Compound measures; formulae from other subjects; algebraic manipulation.

4 NUMBER:
Approximation; bounds; truncation; recurring fractions.

6 STATISTICS:
Comparing distributions; interpreting tables, charts and graphs; combined probability.

8 PERCENTAGES AND TRANSFORMATIONS:
Repeated changes; growth and decay problems; sequences; translations, reflections and rotations.

6 3D GEOMETRY AND STATISTICS:
Surface area and volume of solids; comparing distributions; misleading diagrams.

4 PROPORTIONAL REASONING:
Percentage changes; ratio and proportion.

2 ALGEBRAIC RELATIONSHIPS:
Patterns and generalising sequences; functions and graphs.

5 CIRCLES AND SPEED:
Area and perimeter of circle-based shapes; solving travel problems.

3 2D GEOMETRY:
Properties of triangles and quadrilaterals; angles relationships on parallel lines; area.

1 TYPES OF NUMBER:
Prime factorisation; using Venn diagrams to find LCM, HCF; working with fractions and negative numbers.

1 PLACE VALUE, ADDITION AND SUBTRACTION:
The foundations of arithmetic; perimeter problems.

3 GEOMETRICAL REASONING:
Finding unknown angles; using angle facts to justify answers; tessellation.

5 ALGEBRAIC REPRESENTATIONS:
Using the order of operations; simplifying and substituting into expressions.

2 APPLICATIONS OF MULTIPLICATION AND DIVISION:
Area problems; finding averages.

4 FRACTIONS:
Multiplying and dividing fractions; using proportional reasoning to explain and solve problems.

6 PERCENTAGES, PIE CHARTS AND PROBABILITY:
Solving percentage problems; reading and constructing pie charts; experimental and theoretical probability.