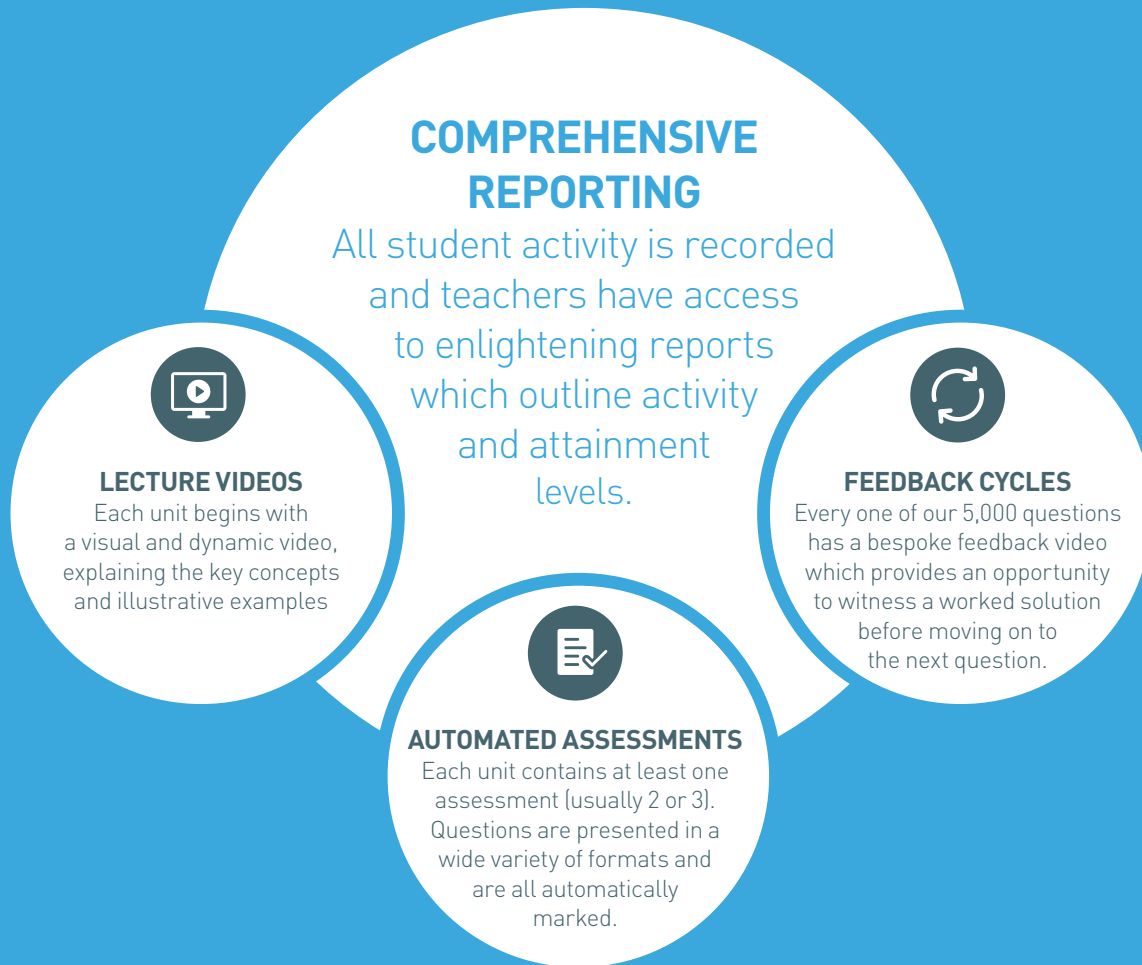


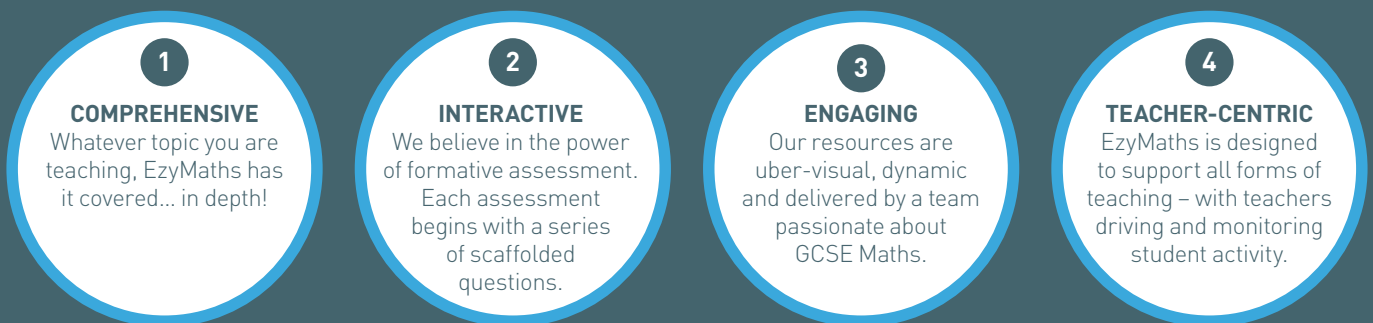
GCSE COURSE GUIDE

EzyMaths has been created from the very beginning to support the new 9-1 mathematics specifications and provides full content coverage.

OUR MODEL



WHEN CREATING EZYMATHS, WE WANTED EVERY VIDEO AND ASSESSMENT TO ADHERE TO 4 KEY PRINCIPLES:



POTENTIAL USES

EzyMaths is designed to put teachers in charge and be used to support a wide variety of approaches. Here are just some examples:



AUTOMATED ASSESSMENTS

With over 380 assessments, covering the entire course, you can set plenty of work every week as you teach the syllabus.



FLIPPED LEARNING

Use EzyMaths to support flipped classrooms and blended learning. Know for sure whether or not students have completed their preparations.



MONITORING & INTERVENTION

Use our comprehensive reports to monitor student completion and identify problem areas to focus on in class.



PARENTS' EVENINGS

Print off our automated reports and hand them out at Parents' Evenings. Easy to evidence student effort and attainment levels.



REVISION TOOL

EzyMaths is the ideal revision tool. When exams approach, students have 24/7 access to resources covering every single topic in depth.

SECTION
NUMBER

| | |
|-----------|---------------------------------|
| N1 | Numbers |
| N2 | Fractions and Decimals |
| N3 | Calculation |
| N4 | Calculation using Fractions |
| N5 | Factors and Multiples |
| N6 | Powers and Surds |
| N7 | Rounding, Bounds and Estimation |
| N8 | Standard Form |
| N9 | Units |

Module 1 - Numbers

- N1.1** Types of number
- N1.2** Place value
- N1.3** Number lines

Module 2 - Fractions & Decimals

- N2.1** Introduction to fractions
- N2.2** Simplifying fractions
- N2.3** Improper fractions and mixed numbers
- N2.4** Decimals to fractions
- N2.5** Fractions to decimals
- N2.6** Ordering fractions and decimals
- N2.7** Converting recurring decimals

Module 3 - Calculation

- N3.1** Addition and subtraction
- N3.2** Multiplication
- N3.3** Division
- N3.4** BIDMAS

Module 4 - Calculation Using Fractions

- N4.1** Adding fractions
- N4.2** Subtracting fractions
- N4.3** Multiplying fractions
- N4.4** Dividing fractions

Module 5 - Factors & Multiples

- N5.1** Prime numbers
- N5.2** Factors
- N5.3** Unique Factorisation Theorem
- N5.4** Highest common factor
- N5.5** Multiples
- N5.6** Lowest common multiple

Module 6 - Powers & Surds

- N6.1** Positive powers
- N6.2** Negative powers
- N6.3** Roots
- N6.4** Powers of 10
- N6.5** Fractional powers
- N6.6** Simplifying surds
- N6.7** Rationalising denominators

Module 7 - Rounding, Bounds & Estimation

- N7.1** Place value rounding
- N7.2** Decimal places
- N7.3** Significant figures
- N7.4** Error intervals
- N7.5** Limits of accuracy problems
- N7.6** Using approximation to estimate

Module 8 - Standard Form

- N8.1** Introduction to Standard Form (SF)
- N8.2** SF with positive powers
- N8.3** SF with negative powers
- N8.4** Adding and subtracting SF
- N8.5** Multiplying and dividing SF
- N8.6** SF problems

Module 9 - Units

- N9.1** Using units
- N9.2** Mass
- N9.3** Length
- N9.4** Area and volume
- N9.5** Time
- N9.6** Money

Each unit contains a lecture video and at least 1 (usually 2 or 3) assessments.

SECTION
ALGEBRA

| | |
|----|------------------------|
| A1 | Formulae |
| A2 | Algebraic Manipulation |
| A3 | Linear Equations |
| A4 | Quadratic Equations |
| A5 | Simultaneous Equations |
| A6 | Inequalities |
| A7 | Functions |
| A8 | Sequences |

SECTION
GRAPHS

| | |
|-----|----------------------------|
| GR1 | Coordinates |
| GR2 | Linear Graphs |
| GR3 | Quadratic and Cubic Graphs |
| GR4 | Advanced Graphs |
| GR5 | Using Graphs |
| GR6 | Contextual Graphs |

Module 1 - Formulae

| | |
|------|-------------------------------------|
| A1.1 | Algebraic notation |
| A1.2 | Introduction to formulae |
| A1.3 | Using formulae |
| A1.4 | Changing the subject of the formula |

Module 2 - Algebraic Manipulation

| | |
|------|-----------------------------------|
| A2.1 | Collecting like terms |
| A2.2 | Basic laws of indices |
| A2.3 | Advanced laws of indices |
| A2.4 | Multiplying over a single bracket |
| A2.5 | Expanding brackets |
| A2.6 | Taking out common factors |
| A2.7 | Algebraic fractions |

Module 3 - Linear Equations

| | |
|------|---------------------------|
| A3.1 | Introduction |
| A3.2 | Basic linear equations |
| A3.3 | Advanced linear equations |

Module 4 - Quadratic Equations

| | |
|------|--------------------------------------|
| A4.1 | Introduction |
| A4.2 | Factorising $a=1$ quadratics |
| A4.3 | Factorising $a \neq 1$ quadratics |
| A4.4 | Difference of two squares |
| A4.5 | Solving QEs by factorising |
| A4.6 | The quadratic formula |
| A4.7 | Completing the square |
| A4.8 | Solving QEs by completing the square |

Module 5 - Simultaneous Equations

| | |
|------|---------------|
| A5.1 | Introduction |
| A5.2 | Linear SEs |
| A5.3 | Quadratic SEs |

Module 6 - Inequalities

| | |
|------|----------------------------------|
| A6.1 | Inequality symbols |
| A6.2 | Inequality number lines |
| A6.3 | Solving linear inequalities |
| A6.4 | Solving quadratic inequalities |
| A6.5 | Two-variable linear inequalities |

Module 7 - Functions

| | |
|------|---------------------|
| A7.1 | Introduction |
| A7.2 | Using functions |
| A7.3 | Inverse functions |
| A7.4 | Composite functions |

Module 8 - Sequences

| | |
|------|--|
| A8.1 | Introduction |
| A8.2 | Arithmetic progressions |
| A8.3 | Advanced sequences |
| A8.4 | Finding n th term of quadratic sequences |
| A8.5 | Sequence problems |

Module 1 - Coordinates

| | |
|-------|-----------------------------------|
| GR1.1 | Plotting coordinates |
| GR1.2 | Plotting shapes using coordinates |

Module 2 - Linear Graphs

| | |
|-------|--|
| GR2.1 | Basic graphs |
| GR2.2 | Equation of a straight line |
| GR2.3 | Straight line equations from coordinates |
| GR2.4 | Midpoints |
| GR2.5 | Parallel lines |
| GR2.6 | Perpendicular lines |

Module 3 - Quadratic and Cubic Graphs

| | |
|-------|--------------------|
| GR3.1 | Quadratic graphs |
| GR3.2 | Cubic graphs |
| GR3.3 | Max and min points |

Module 4 - Advanced Graphs

| | |
|-------|-----------------------------------|
| GR4.1 | Reciprocal and exponential graphs |
| GR4.2 | Trigonometric graphs |
| GR4.3 | Equation of a circle |

Module 5 - Using Graphs

| | |
|-------|--------------------------------|
| GR5.1 | Translations and reflections |
| GR5.2 | Using graphs to find solutions |
| GR5.3 | Estimating gradients and areas |

Module 6 - Contextual Graphs

| | |
|-------|----------------------|
| GR6.1 | Distance-time graphs |
| GR6.2 | Velocity-time graphs |
| GR6.3 | Financial graphs |

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SECTION
**RATIO, PROPORTION
AND RATES OF CHANGE**

| | |
|------|-----------------|
| RPR1 | Ratio |
| RPR2 | Percentages |
| RPR3 | Proportion |
| RPR4 | Rates of Change |

SECTION
GEOMETRY

| | |
|-----|------------------------------|
| GE1 | Shapes |
| GE2 | Angles |
| GE3 | Construction and Measurement |
| GE4 | Trigonometry |
| GE5 | Mensuration |
| GE6 | Circles |
| GE7 | Congruence |
| GE8 | Transformations |
| GE9 | Vectors |

Module 1 - Ratio

| | |
|--------|---------------------------------------|
| RPR1.1 | Introduction |
| RPR1.2 | Dividing quantities using ratios |
| RPR1.3 | Map scale factors |
| RPR1.4 | Quantities as fractions of each other |

Module 2 - Percentages

| | |
|--------|-------------------------------------|
| RPR2.1 | Introduction |
| RPR2.2 | Quantity as a percentage of another |
| RPR2.3 | Percentage increases |
| RPR2.4 | Percentage decreases |
| RPR2.5 | Reverse percentage changes |
| RPR2.6 | Simple interest |
| RPR2.7 | Compound growth and decay |

Module 3 - Proportion

| | |
|--------|---|
| RPR3.1 | Introduction |
| RPR3.2 | Direct proportion |
| RPR3.3 | Inverse proportion |
| RPR3.4 | Graphical representations of proportion |

Module 4 - Rates of Change

| | |
|--------|---|
| RPR4.1 | Introduction |
| RPR4.2 | Interpreting gradients |
| RPR4.3 | Average and instantaneous rates of change |

Module 1 - Shapes

| | |
|-------|----------------|
| GE1.1 | Quadrilaterals |
| GE1.2 | Triangles |
| GE1.3 | Polygons |
| GE1.4 | 3D shapes |

Module 2 - Angles

| | |
|-------|---|
| GE2.1 | Angle notation and conventions |
| GE2.2 | Angles at a point and on a straight line |
| GE2.3 | Vertically opposite angles |
| GE2.4 | Corresponding, alternate and co-interior angles |
| GE2.5 | Angles in a triangle |
| GE2.6 | Angles in an isosceles triangle |
| GE2.7 | Angles in a polygon |
| GE2.8 | Bearings |

Module 3 - Construction and Measurement

| | |
|-------|----------------------------|
| GE3.1 | Measuring Lines and Angles |
| GE3.2 | Constructing Bisectors |
| GE3.3 | Loci and Regions |

Module 4 - Trigonometry

| | |
|-------|---------------------|
| GE4.1 | Pythagoras' Theorem |
| GE4.2 | Sine function |
| GE4.3 | Cosine function |
| GE4.4 | Tangent function |
| GE4.5 | SohCahToa |
| GE4.6 | Sine rule |
| GE4.7 | Cosine rule |
| GE4.8 | Problems in 3-D |

Module 5 - Mensuration

| | |
|-------|--|
| GE5.1 | Perimeters |
| GE5.2 | Rectangular areas |
| GE5.3 | Area of a triangle |
| GE5.4 | $A=0.5absinC$ |
| GE5.5 | Parallelograms and trapezia |
| GE5.6 | Volumes of prisms |
| GE5.7 | Volumes of spheres, pyramids and cones |
| GE5.8 | Advanced area and volume calculations |

Module 6 - Circles

| | |
|-------|------------------------------------|
| GE6.1 | Circle definitions |
| GE6.2 | Circumference of a circle |
| GE6.3 | Area of a circle |
| GE6.4 | Sectors and arc lengths of circles |
| GE6.5 | Circle theorems 1 |
| GE6.6 | Circle theorems 2 |
| GE6.7 | Circle theorems extension |

Module 7 - Congruence

| | |
|-------|---------------------------------------|
| GE7.1 | Similarity in one dimension |
| GE7.2 | Similarity in more than one dimension |
| GE7.3 | Congruence |
| GE7.4 | Congruence criteria for triangles |

Module 8 - Transformations

| | |
|-------|--------------------------|
| GE8.1 | Reflection |
| GE8.2 | Rotation |
| GE8.3 | Translation |
| GE8.4 | Enlargement |
| GE8.5 | Compound transformations |

Module 9 - Vectors

| | |
|-------|--|
| GE9.1 | The concept of a vector |
| GE9.2 | Addition and subtraction of vectors |
| GE9.3 | Multiplying vectors by a scalar |
| GE9.4 | Constructing geometric proofs with vectors |

Each unit contains a lecture video and at least 1 (usually 2 or 3) assessments.

SECTION**PROBABILITY AND STATISTICS**

| | |
|------------|------------------------|
| PS1 | Probability |
| PS2 | Data and Frequency |
| PS3 | Descriptive Statistics |
| PS4 | Cumulative Frequency |
| PS5 | Data Representations |
| PS6 | Correlation |

Module 1 - Probability

| | |
|--------------|-------------------------------|
| PS1.1 | Introduction |
| PS1.2 | Counting outcomes |
| PS1.3 | Calculating probability |
| PS1.4 | Mutually exclusive events |
| PS1.5 | Calculating expected outcomes |
| PS1.6 | Venn diagrams |
| PS1.7 | Probability trees |
| PS1.8 | Dependent events |

Module 2 - Data and Frequency

| | |
|--------------|------------------------|
| PS2.1 | Types of data |
| PS2.2 | Sampling |
| PS2.3 | Frequency tables |
| PS2.4 | 2-way frequency tables |

Module 3 - Descriptive Statistics

| | |
|--------------|--|
| PS3.1 | Summary statistics |
| PS3.2 | Calculating the mean |
| PS3.3 | Calculating the median |
| PS3.4 | Calculating the mode |
| PS3.5 | Averages from frequency tables |
| PS3.6 | Averages from grouped frequency tables |
| PS3.7 | Range |
| PS3.8 | Descriptive statistics problems |

Module 4 - Cumulative Frequency

| | |
|--------------|-----------------------------|
| PS4.1 | Cumulative frequency tables |
| PS4.2 | Cumulative frequency graphs |
| PS4.3 | Quartiles and IQR |
| PS4.4 | Box plots |

Module 5 - Data Representations

| | |
|--------------|-------------|
| PS5.1 | Bar charts |
| PS5.2 | Pie charts |
| PS5.3 | Pictograms |
| PS5.4 | Line charts |
| PS5.5 | Histograms |

Module 6 - Correlation

| | |
|--------------|-----------------------------------|
| PS6.1 | Scatter graphs |
| PS6.2 | Correlation |
| PS6.3 | Lines of best fit and predictions |
| PS6.4 | Limits of correlation |

Each unit contains a lecture video and at least 1 (usually 2 or 3) assessments.