



ACADEMY
GREAT BARR

Curriculum Guide – Year 9 Mathematics

Curriculum Director: Mr A. Machin

Members of Staff who teach Year 9:

- Mr B. Bekele
- Mr C. Skinner
- Miss F. Jeewa
- Mrs P. Parker
- Miss C. Hopkins (KS3 and KS4 Coordinator)
- Miss F. Murphy (Intervention Coordinator)
- Mr M. Johal (KS5 Coordinator)
- Mr A. Machin (Curriculum Director)

Exam Board and Specification:

Edexcel

[Specification](#)

How the course is assessed:

There will be 3 exams at the end of year 11, 1 non-calculator and 2 calculator papers. Each paper is 90 minutes.

What we do in year 9:

Approximate Dates	Big Question/ Theme	Key Learning Outcomes
Cycle 1	In the Frame Investigation What have Mathematicians done for us? Rectangles, Expressions and Equations	Sequences and nth terms Operations on integers and decimals Negative Numbers Expressions and Formulae Indices and Roots Standard Form Factors, Multiples and Primes Rounding and Estimation Forming and Solving Equations
Cycle 2	How big could it be? Are there fractions? Pythagoras' Theorem? Angle Hunt	Forming and Solving Inequalities Rounding and Estimation Reading and Measuring Calculations with fractions Pythagoras' Theorem Area and Perimeter Functions and Graphs Trigonometry Angles Geometrical Reasoning
Cycle 3	Coke Cans and Food Boxes Sports Profiling How can I be more Money Savvy?	2D and 3D shapes Volume and Surface Area Graphs, Charts and Diagrams Using averages Compound Measures Percentage Changes Real-life graphs Ratio and Proportion
Cycle 4	Would you place money on it? Transformations and School Plans Construction and Movement What can Angry Birds teach us about graphs?	Probability Set Theory Transformations Enlargement and Similarity Loci and Construction Congruency and Symmetry Functions and Graphs Coordinate Geometry

For more information and guidance please visit...

[BBC Bitesize](#), [mymaths](#), [mathswatch](#)



ACADEMY
GREAT BARR

Curriculum Guide – Year 10

Mathematics

Curriculum Director: Mr A. Machin

Members of Staff who teach Year 10:

- Mr B. Bekele
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- Miss F. Jeewa
- Mrs P. Parker
- Miss C. Hopkins (KS3 and KS4 Coordinator)
- Miss F. Murphy (Intervention Coordinator)
- Mr M. Johal (KS5 Coordinator)
- Mr A. Machin (Curriculum Director)

Exam Board and Specification:

Edexcel

[Specification](#)

How the course is assessed:

There will be 3 exams at the end of year 11, 1 non calculator and 2 calculator papers. Each paper is 90 minutes.

What we do in year 10:

Approximate Dates	Big Question/ Theme	Key Learning Outcomes
Cycle 1	Pattern Describers: A Perfect World? Thinking Proportionally: A Perfect World? Fractions and Decimals Spend or Save?	Patterns and Sequences Linear Graphs Ratio and Proportion Compound Measures and Units Real-life graphs Enlargement and Similarity FDP Integers and Decimals Percentage Changes
Cycle 2	Exploring Algebra Building on Rectangles Better School Big Factor Hunt Against the Laws	Expressions and Formulae Brackets and Factorisation Maps, Scale and Representation Factors, Multiples and Primes Working with indices and roots Roots and Surds Calculating with powers of 10
Cycle 3	Getting the Most out of Life Equations and Not Equations Probably Best... Probably Not... Right-angled inquiry	Area and Perimeter Volume and Surface Area Rounding and Estimating Equations Inequalities Probability Pythagoras' Theorem Trigonometry Waves and Curves
Cycle 4	Transformations Platonic Solids Angle Hunt What will the world be like in 2050? Construction and Loci	Transformations Vectors Coordinates and Geometry 3D shapes Angles and Circle theorems Collecting and Representing Data Working with averages Construction and Loci Triangles and Congruency

For more information and guidance please visit...

[BBC Bitesize](#), [mymaths](#), [mathswatch](#), [methodmaths](#)



ACADEMY
GREAT BARR

Curriculum Guide – Year 11 – X1 & Y1 Mathematics

Curriculum Director: Mr A. Machin

Members of Staff who teach Year 11:

- Mr A. Slack (Assistant Vice Principal - Curriculum, Timetable and Resourcing)
- Mr A. Machin (Curriculum Director)
- Miss C. Hopkins (KS3 and KS4 Coordinator)
- Miss F. Murphy (Intervention Coordinator)
- Mr M. Johal (KS5 Coordinator)

Exam Board and Specification:

Edexcel

[Specification](#)

How the course is assessed:

There will be 3 exams at the end of year 11, 1 non calculator and 2 calculator papers. Each paper is 90 minutes.

What we do in year 11:

Approximate Dates	Big Question/ Theme	Key Learning Outcomes
Cycle 1	Expand and simplify Equations form and solve Compound measures Formulae and waves Triggy Pythagoras Percentage reasoning	Expand and factorise linear and quadratic expressions Complete the square Form and solve linear, quadratic, algebraic and simultaneous equations Calculate compound Measures and convert between units. Rearrange formula Draw linear, quadratic, cubic and trigonometric graphs and label Understand and apply Pythagoras' Theorem and trigonometry to solve problems. Calculate percentages including percentage changes.
Cycle 2	Quartiles Ice Cream cones Similarity Proportionality Data review	Interpret and use cumulative frequency curves and box plots. Solve problems involving 3D shapes and circles. Solve problems with similar shapes Construct and interpret stem and leaf diagrams, pie charts, scatter graphs, cumulative frequency curves, box plots and histograms. Calculate averages and compare distributions Sampling.
Cycle 3	Sequences and nth term Transformations and curves Upper and lower bounds Surds Angles	Generate nth terms of linear and quadratic sequences and use for proofs. Describe and perform transformations including enlargements. Understand and use upper and lower bounds. Express numbers in surd form and simplify surds. Perform calculations with surds. Use angle properties to find missing angles, including circle theorems and proof.

For more information and guidance please visit...

[BBC Bitesize](#), [mymaths](#), [mathswatch](#), [methodmaths](#)



ACADEMY
GREAT BARR

Curriculum Guide – Year 11 – X2 & Y2 Mathematics

Curriculum Director: Mr A. Machin

Members of Staff who teach Year 11:

- Mr A. Slack (Assistant Vice Principal - Curriculum, Timetable and Resourcing)
- Mr A. Machin (Curriculum Director)
- Miss C. Hopkins (KS3 and KS4 Coordinator)
- Miss F. Murphy (Intervention Coordinator)
- Mr M. Johal (KS5 Coordinator)

Exam Board and Specification:

Edexcel

[Specification](#)

How the course is assessed:

There will be 3 exams at the end of year 11, 1 non calculator and 2 calculator papers. Each paper is 90 minutes.

What we do in year 11:

Approximate Dates	Big Question/ Theme	Key Learning Outcomes
Cycle 1	Factors and products of primes Expand and simplify Equations form and solve Formulae and waves Quartiles Pythagoras' Theorem	Expand and factorise linear and quadratic expressions Form and solve linear, quadratic, algebraic and simultaneous equations Rearrange formula Draw linear, quadratic, cubic and trigonometric graphs and label Interpret and use cumulative frequency curves and box plots. Understand and apply Pythagoras' Theorem.
Cycle 2	Triggy Pythagoras Averages in tables Circles and area Plans and elevations Prisms and cylinders Ratio and proportion	Understand and apply Pythagoras' Theorem and trigonometry to solve problems. Find averages, including in tables. Find area of 2D shapes including circles. Draw and recognise plans and elevations and isometric drawings. Calculate volume and surface area of prisms, including cylinders. Divide into ratios and calculate direct and inverse proportion.
Cycle 3	Percentages and fractions Estimating and rounding Transformations : doing and describing Laws of indices Sequences and Nth term Angles	Calculate with fractions and percentages, including percentage change. Round numbers to various degrees and estimate. Describe and perform transformations including enlargement. Calculate with indices including negative and fractional powers. Generate nth terms of linear and quadratic sequences. Use angle properties to find missing angles, including circle theorems and proof.

For more information and guidance please visit...

[BBC Bitesize](#), [mymaths](#), [mathswatch](#), [methodmaths](#)



ACADEMY
GREAT BARR

Curriculum Guide – Year 11 – X3/4 & Y3/4 Mathematics

Curriculum Director: Mr A. Machin

Members of Staff who teach Year 11:

- Mr A. Slack (Assistant Vice Principal - Curriculum, Timetable and Resourcing)
- Mr A. Machin (Curriculum Director)
- Miss C. Hopkins (KS3 and KS4 Coordinator)
- Miss F. Murphy (Intervention Coordinator)
- Mr M. Johal (KS5 Coordinator)

Exam Board and Specification:

Edexcel

[Specification](#)

How the course is assessed:

There will be 3 exams at the end of year 11, 1 non calculator and 2 calculator papers. Each paper is 90 minutes.

What we do in year 11:

Approximate Dates	Big Question/ Theme	Key Learning Outcomes
Cycle 1	Factors and products of primes Expand and simplify Negatives Equations form and solve Formulae and lines Triggy Pythagoras	Expand and factorise linear and quadratic expressions Perform calculations with negative numbers. Form and solve linear, quadratic, and simultaneous equations Rearrange formula Draw linear graphs. Interpret and use cumulative frequency curves. Understand and apply Pythagoras' Theorem and trigonometry to solve problems.
Cycle 2	Percentages and fractions Averages in tables Compound area and plans 3D shapes Prisms Ratio and proportion	Calculate with fractions and percentages, including percentage change. Find averages, including in tables. Find area of 2D shapes including circles. Draw and recognise 2D and 3D shapes. Calculate volume and surface area of prisms. Divide into ratios and use proportional reasoning.
Cycle 3	Units, time and money Estimating and rounding Transformations : doing and describing Indices and roots Exchange rates Angles	Compare units in different contexts, including all four operations and from tables. Convert between units Round numbers to various degrees and estimate. Describe and perform transformations including enlargement. Calculate indices and use index notation. Construct linear functions and solve problems that arise. Use angle properties to find missing angles.

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