

## **Mathematics course structure.**

Every student is taught in ability sets from the start of year 7. Each student has 4 lessons of mathematics per week in years 7 and 8, with one homework per week. A number of resources are used but the main text books will be Collins "Maths Frameworking". Students will complete a project each half term, and a weekly skills test. Examinations are in the summer term of year 7 and year 8.

Year 9, 10 and 11 students are following the new GCSE course (AQA examining board), resulting in grades from 1 to 9 rather than the A\* to G. Each student in years 9 and 10 have 4 lessons of Mathematics a week with one home work a week and in year 11 there are 5 lessons a week with one homework a week. Students in year 9,10 and 11 will use the AQA approved Collins GCSE text book. All GCSE classes are taught by a specialised Mathematics teacher and in a group appropriate to their ability.

# Key Stage 3: Year 7 Scheme of Work

## Autumn Term

Activity	Number of Lessons
Farm Project	2
Baseline Test	1
From Book 1:	4
1. Using Numbers	
2. Number Sequences	6
3. Perimeter, Area, Volume	3
Topic Test 1 – chapters 1-3	1
4. Decimal Numbers	5
HALF TERM	
5. Working with numbers	7
6. Statistics	7
Topic Test 2 – chapters 4-6	1
7. Using algebra	5
8. Fractions	6
9. Angles	6
Topic Test 3 – chapters 7-9	1
Christmas Dinner Project	2
CHRISTMAS	

## Spring Term

Activity	Number of Lessons
10. Coordinates and Graphs	6
11. Percentages	3
12. Probability	3
Topic Test 4 – chapters 10-12	1
13. Symmetry	5
14. Equations	4
15. Interpreting Data	4
Topic Test 5 – chapters 13-15	1
Phone Project	2
HALF TERM	
16. 3D shapes	3
17. Ratio	5
Topic Test 6 – chapters 16-17	1
From Book 2:	7
1. Working with numbers	
2. Geometry	5
Topic Test 7 – chapters 1-2	1
Easter Project	2
EASTER	

## Summer Term

Activity	Number of Lessons
3. Probability	5
4. Percentages	4
5. Sequences (higher groups will study "Congruent Shapes")	4
Topic Test 8 – chapters 3-5	1
6. Area and Volume	5
7. Graphs	5
Sports Field Project	2
HALF TERM	
8. Number	6
Topic Test 9 – chapters 6-8	1
Year 7 Core Tests	1
9. Interpreting Data	5
10. Algebra	5
11. Congruence and Scaling (higher groups will study "Shape and Ratio")	4
Topic Test 10 – chapters 9-11	1
Holiday Project	2
SUMMER	

## Key Stage 3: Year 8 Scheme of Work

Activity	Number of Lessons
Bedroom Project	2
From Book 1: 16. 3D shapes	3
17. Ratio	6
Topic Test 6 – chapters 16-17	3
From Book 2: 1. Working with numbers	
2. Geometry	1
Topic Test 7 – chapters 1-2	5
HALF TERM	
3. Probability	7
4. Percentages	7
5. Sequences (higher groups will study "Congruent Shapes")	1
Topic Test 8 – chapters 3-5	5
6. Area and Volume	6
7. Graphs	6
8. Number	2
Christmaths Present Project	2
CHRISTMAS	

## Spring Term

Activity	Number of Lessons
8. Number (continued)	4
Topic Test 9 – chapters 6-8	1
9. Interpreting Data	5
10. Algebra	5
Year 8 Exams	
11. Congruence and Scaling (higher groups will study "Shape and Ratio")	4
Topic Test 10 – chapters 9-11	1
Nutrition Project	2
HALF TERM	
12. Fractions and Decimals	6
13. Proportion	5
Topic Test 11 – chapters 12-13	1
14. Circles	4
15. Equations and formulae	4
Space Station Project	2
EASTER	

## Summer Term

Activity	Number of Lessons
16. Comparing Data	4
Topic Test 12 – chapters 14-16	1
From book 3:	4
1. Percentages	
2. Equations and formulae	6
Topic Test 13 – chapters 1-2	1
World Statistics Project	2
HALF TERM	
3. Polygons	4
4. Using Data	4
5. Circles (middle and higher groups will study Graphs)	3
Topic Test 14 – chapters 3-5	1
6. Enlargements (middle and higher groups will study Pythagoras' theorem)	5
Carbon Footprint Project	2
SUMMER	

# KEYSTAGE 4: GCSE

## Year 9 – Foundation Sets

Chapter	Title	Suggested teaching time
<b>YEAR ONE</b>		
<b>Autumn term: 14 weeks (56 Lessons)</b>		
1	Basic number	14
2	Geometry and measures 1	14
	Topic test 1	2
3	Statistics: Charts tables and averages	8
4	Geometry and measures 2 : Angles	8
	Topic test 2	2
5	Number 1: Number Properties (5.1 to 5.3)	8
<b>Spring term: 11 weeks (44 Lessons)</b>		
5	Number 1: Number Properties (5.4 to 5.7)	12
6	Number 2: Approximations	8
	Topic test 3	2
7	Number 3: Decimals & fractions	12
8	Algebra 1: Linear graphs (8.1 to 8.5)	10
<b>Summer term: 13 weeks (52 Lessons)</b>		
	Year 9 exams	7
8	Algebra 1: Linear graphs (8.6 to 8.7)	6
	Topic test 4	2
9	Algebra 2: expressions & formulae	16
10	Ratio & proportion & rates of change 1	13
	Activities week plus	8

## Year 10 – Foundation Sets

Chapter	Title	Suggested teaching time
<b>YEAR TWO</b>		
<b>Autumn term: 14 weeks (56 Lessons)</b>		
11	Geometry & measures 3: Area	13
12	Geometry & measures 4: Transformations	13
	Topic Test 6	2
13	Probability 1: probability & events	13
14	Geometry & measures 5: Volumes & surface area.	13
	Topic test 7 (includes vectors 12.7)	2
<b>Spring term: 11 weeks (44 Lessons)</b>		
15	Algebra 3: Linear equations	16
16	Ratio & proportion & rates of change 2	8
	Topic test 9	2
17	Ratio & proportion & rates of change 3	12
	Topic test 10	2
18	Statistics 1: Sampling	4
<b>Summer term: 13 weeks (52 Lessons)</b>		
18	Statistics 1: Continued	10
	Revision, Exam and review	10
19	Geometry & measures 5: Constructions and loci	10
20	Geometry & measures 6: Curved shapes and pyramids	14
	Activities week plus	8

## Year 11 – Foundation Sets

Chapter	Title	Suggested teaching time
<b>YEAR THREE</b>		
<b>Autumn term: 14 weeks (70 Lessons)</b>		
21	Algebra 4: Number & sequences	11
	Topic test 11	2
22	Geometry & measures 7: Right-angled triangles; Trigonometric ratios	23
	Topic test 12	2
23	Geometry & measures 8: Congruency & similarity	9
24	Probability 2: Combined events	9
	Topic test 13	2
25	Number: Powers & standard form	12
<b>Spring term: 11 weeks (55 Lessons)</b>		
	Revision, Exam and review	10
26	Algebra 5: Simultaneous equations and linear inequalities	12
	Topic Test 14	2
27	Algebra 6: Non-linear graphs	12
	Catch up and Revision for GCSE	19
<b>Summer term: 5 weeks approx (25 Lessons)</b>		
	Revision for GCSE	25

## Year 9 – Higher Sets

Chapter	Title	Suggested teaching time
<b>YEAR ONE</b>		
<b>Autumn term: 14 weeks (56 Lessons)</b>		
1	Basic number	14
2	Fractions, ratios and proportion	15
	Topic test 1	3
3	Statistical diagrams and averages	10
4	Number and sequences	10
	Topic test 2	3
<b>Spring term: 11 weeks (44 Lessons)</b>		
5	Ratio and proportion	14
6	Angles	14
	Topic test 3	2
7	Transformations, constructions & loci	14
<b>Summer term: 13 weeks (52 Lessons)</b>		
	Week of Year 9 Exams	7
8	Algebraic manipulation	10
	Topic test 4	2
9	Length, area and Volume	15
	Topic test 5	2
10	Linear graphs	8
	Activities week plus	8

## Year 10 – Higher Sets

Chapter	Title	Suggested teaching time
<b>YEAR TWO</b>		
<b>Autumn term: 14 weeks (56 Lessons)</b>		
11	Right-angled triangles	15
12	Similarity	10
13	Exploring and applying probability	12
	Topic Test 6	2
14	Powers and standard form	14
	Topic Test 7	2
<b>Spring term: 11 weeks (44 Lessons)</b>		
15	Equations and inequalities	27
16	Counting, accuracy and surds	15
	Topic test 9	2
<b>Summer term: 13 weeks (52 Lessons)</b>		
17	Quadratic equations	32
	Year 10 Exams (approx 4 weeks in)	10
	Topic test 10	2
	Activities week plus	8



## Year 11 – Higher Set

Chapter	Title	Suggested teaching time
<b>YEAR THREE</b>		
<b>Autumn term: 14 weeks (70 Lessons)</b>		
18	Sampling & more complex diagrams	11
19	Combined events	9
	Topic test 11	2
20	Properties of circles	10
21	Variation	8
	Topic test 12	2
22	Triangles	8
23	Graphs	18
	Topic test 13	2
<b>Spring term: 11 weeks (55 Lessons)</b>		
	Revision, Exam and review	10
24	Algebraic fractions & functions	16
25	Vector geometry	8
	Topic Test 14/15	2
	Revision Programme for GCSE	19
<b>Summer term: 5 weeks approx (25 Lessons)</b>		
	Revision Programme for GCSE	25

## 6<sup>th</sup> Form Maths

In year 12 students have 5 lessons a week split between two teachers and in year 13 students have 6 lessons a week split between two teachers. Preparatory exams are sat in November and March. We use the AQA examination board. Core Maths has been introduced and is an equivalent to an AS level. This is split between 3 teachers over 5 lessons.

### Year 12

#### Autumn Term

Lesson	Teacher 1		Teacher 2
1	1.1 Solving Problems		3.1 Quadratic Graphs
2	1.2 Writing Mathematics		3.2 Completing Square
3	1.3 Proof		
1	Test		3.3 Quadratic Formula
2	2.1 Surds		Revision
3	2.2 Indices		
1	Test		Test
2	4.1 Simultaneous Equations		7.1 Polynomial Expressions
3	4.2 Inequalities		
1	Test		7.2 Dividing Polynomials
2	5.1 Working with Coordinates		7.3 Polynomial Equations
3	5.2 Equation of a Straight Line		
1	5.3 Intesection of Two Lines		Revision
2	5.4 Circles		Test
3	5.5 Intersection of Line and Curve		
1	Revision		9.1 Binomial Expansion
2	Test		9.2 Selections
3	6.1 Trig Functions		
1	HT		HT
2	HT		HT
3	HT		
1	6.2 Trig Functions		Revision
2	6.3 Solving Trig Equations		Test
3	6.4 Sine and Cosine Rule		
1	6.5 $1/2ab\sin C$		8.1 Shape of Curves
2	Revision		8.2 Transformations to Sketch Curves
3	Test		
1	Exam?		Exam?
2	Exam?		Feedback?
3	Feedback?		
1	10.1 Gradient as a Limit		8.3 Using Transformations
2	10.2 Standard Differentiation		8.4 Trig Transformations
3	10.3 Tangents and Normals		
1	10.4 Increase and Decrease Functions		Revision
2	10.5 Sketching Graphs		Test
3	10.6 Extending Rule		
1	10.7 Higher Order Derivatives		12.1 Vectors
2	10.8 Practical Problems		12.2 Working with Vectors
3	10.9 First Principles		
1	Revision		12.3 Vector Geometry
2	Revision		Revision
3	Test		

## Spring Term

3	11.1 Basic Integrations		
1	11.2 Finding Areas		Test
2	11.3 Area Below X-Axis		19.1 Language of Motion
3	11.4 Further Integrations		
1	Revision		19.2 Speed and Velocity
2	Test		19.3 Acceleration
3	13.1 Exponential Functions		
1	13.2 Logarithms		19.4 Area to find Distance
2	13.3 Exponential Function		19.5 SUVATS
3	13.4 Natural Logs		
1	13.5 Modelling Curves		19.6 Further Examples
2	Revision		Revision
3	Test		
1	14.1 Stats to Solve Probs		Test
2	14.2 Sampling		20.1 Force Diagrams
3	15.1 Presenting Types of Data		
1	15.2 Ranked Data		20.2 Force and Motion
2	15.3 Discrete Numerical Data		20.3 Types of Forces
3	15.4 Continuous Numerical Data		
1	HT		HT
2	HT		HT
3	HT		HT
1	Exam?		Exam?
2	Exam?		Exam?
3	Exam?		Exam?
1	15.5 Bivariate Data		20.4 Pulleys
2	15.6 Standard Deviation		20.5 Newtons 2nd Law
3	Revision		
1	Test		20.6 Connected Objects
2	16.1 Probability		Revision
3	16.1 Probability		
1	17.1 Intro to Binomial Distro		Test
2	17.2 Using Binomial Distro		21.1 Using Differentiation
3	Test		
1	18.1 Hypothesis Testing		21.2 Displacement From Velocity
2	18.2 Extending Hypothesis Testing		21.3 More SUVATS
3	Revision		
1	Test		Revision
2	Large Data Set		Test
3	Large Data Set		

# Year 13

## Autumn Term

Lesson	Teacher 1		Teacher 2
1	13.1 Binomial Series		12.1 Further Proof
2	13.1 Binomial Series		12.1 Further Proof
3	13.2 Intro to Sequences		12.2 Functions
1	13.2 Intro to Sequences		12.2 Functions
2	13.3 Arithmetic Sequences		12.3 Parametric Equations
3	13.3 Arithmetic Sequences		12.3 Parametric Equations
1	13.4 Geometric Sequences		12.4 Algebraic Fractions
2	13.4 Geometric Sequences		12.4 Algebraic Fractions
3	Review/ Assesment		12.5 Partial Fractions
1	Topic Test and Feedback		12.5 Partial Fractions
2	Topic Test and Feedback		Review/ Assesment
3	Topic Test and Feedback		Topic Test and Feedback
1	15.1 Shape of Functions		Topic Test and Feedback
2	15.1 Shape of Functions		Topic Test and Feedback
3	15.2 Trig Functions		14.1 Radians
1	15.2 Trig Functions		14.1 Radians
2	15.3 Exponentials and Logs		14.2 Reciprocal and Inverse Trig
3	15.3 Exponentials and Logs		14.2 Reciprocal and Inverse Trig
1	HT		HT
2	HT		HT
3	HT		HT
1	15.4 Product and Quotient Rules		14.3 Compound Angles
2	15.4 Product and Quotient Rules		14.3 Compound Angles
3	15.5 Chain Rule		14.4 Equivalent Forms
1	15.5 Chain Rule		14.4 Equivalent Forms
2	15.6 Inverse Functions		Review/ Assesment
3	15.6 Inverse Functions		Topic Test and Feedback
1	Exam?		Exam?
2	Exam?		Exam?
3	Feedback?		Feedback?
1	15.7 Implicit Differentiation		Topic Test and Feedback
2	15.7 Implicit Differentiation		Topic Test and Feedback
3	15.8 Parametric Equations		17.1 Simple Root Finding
1	15.8 Parametric Equations		17.1 Simple Root Finding
2	Review/ Assesment		17.2 Iterative Root Finding
3	Topic Test and Feedback		17.2 Iterative Root Finding
1	Topic Test and Feedback		17.3 Newton Raphson
2	Topic Test and Feedback		17.3 Newton Raphson
3	16.1 Standard Integrals		17.4 Numerical Integration
1	16.1 Standard Integrals		17.4 Numerical Integration
2	16.2 Integration by Subs		Review/ Assesment
3	16.2 Integration by Subs		Topic Test and Feedback

## Spring Term

3	16.3 Integration by Parts		Topic Test and Feedback
1	16.3 Integration by Parts		Topic Test and Feedback
2	16.4 Rational Functions		18.1 Constant Acceleration
3	16.4 Rational Functions		18.1 Constant Acceleration
1	16.5 Differential Equations		18.2 Variable Acceleration
2	16.5 Differential Equations		18.2 Variable Acceleration
3	Review/ Assessment		18.3 Gravity Pt 2
1	Topic Test and Feedback		18.3 Gravity Pt 2
2	Topic Test and Feedback		18.4 Forces
3	Topic Test and Feedback		18.4 Forces
1	20.1 Conditional Probability		Review/ Assessment
2	20.1 Conditional Probability		Topic Test and Feedback
3	20.2 Modelling Probability		Topic Test and Feedback
1	20.2 Modelling Probability		Topic Test and Feedback
2	20.3 Normal Distribution		19.1 3D Vectors
3	20.3 Normal Distribution		19.1 3D Vectors
1	20.4 Using Normal		19.2 Statics
2	20.4 Using Normal		19.2 Statics
3	Review/ Assessment		19.3 Dynamics 2
1	HT		HT
2	HT		HT
3	HT		HT
1	Exam?		Exam?
2	Exam?		Exam?
3	Feedback?		Feedback?
1	Topic Test and Feedback		19.3 Dynamics 2
2	Topic Test and Feedback		19.4 Moments
3	Topic Test and Feedback		19.4 Moments
1	21.1 Testing Correlation		Review/ Assessment
2	21.1 Testing Correlation		Topic Test and Feedback
3	21.2 Testing Normality		Topic Test and Feedback
1	21.2 Testing Normality		Topic Test and Feedback
2	Review/ Assessment		Revision
3	Topic Test and Feedback		Revision
1	Topic Test and Feedback		Revision
2	Topic Test and Feedback		Revision
3	Revision		Revision
1	Revision		Revision
2	Revision		Revision
3	Revision		Revision

# Core Maths

Autumn Term

Lesson	Teacher 1 (3 Lessons)	Teacher 2 (1 Lesson)	Teacher 3 (1 Lesson)
1	3.2 SpreadSheet Formula	1.3 Running Smart	3.1 Straight Line Graphs
2	3.2 SpreadSheet Formula		
3	1.1 Voting		
1	1.1 Voting	1.3 Running Smart	3.1 Straight Line Graphs
2	1.2 Running a Car		
3	1.2 Running a Car		
1	3.7 Statistical Terms	3.3 Perimeter and Area	1.6 Lines making Logos
2	3.7 Statistical Terms		
3	3.9 Sampling Methods		
1	3.9 Sampling Methods	3.3 Perimeter and Area	1.6 Lines making Logos
2	2.9 How many fish		
3	2.9 How many fish		
1	3.8 Rep and Analyse Data	1.4 Maps and Measuring	3.13 Formulae
2	3.8 Rep and Analyse Data		
3	3.12 Stat from Graphs		
1	3.12 Stat from Graphs	3.4 Surface Area	3.13 Formulae
2	2.5 Campaign for Change		
3	2.5 Campaign for Change		
1	HT	HT	HT
2	HT	HT	HT
3	HT	HT	HT
1	2.6 Is it really true	3.4 Surface Area	2.1 Isle of Wight
2	2.6 Is it really true		
3	3.10 Calculating Stats		
1	3.10 Calculating Stats	3.5 Triangles	2.1 Isle of Wight
2	2.7 How fair is Society		
3	2.7 How fair is Society		
1	Exam Week	Exam Week	Exam Week
2	Exam Week		
3	Exam Week		
1	3.11 Diagram for Grouped Data	3.5 Triangles	2.2 Sun Cream
2	3.11 Diagram for Grouped Data		
3	2.8 Day off?		
1	2.8 Day off?	1.5 Ice Cream cones	2.2 Sun Cream
2	2.10 Winning Heptathlon		
3	2.10 Winning Heptathlon		
1	3.6 Personal Finance	1.5 Ice Cream cones	3.20 Estimating
2	3.6 Personal Finance		
3	3.15 Percentages		
1	3.15 Percentages	2.20 Alcohol	3.20 Estimating
2	3.16 Interest		
3	3.16 Interest		

## Spring Term

1	2.11 Student Loans	2.20 Alcohol	3.14 Approximation
2	3.17 Graphs about money		
3	3.17 Graphs about money		
1	2.12 Making Money Work	2.21 Misleading Claims	3.14 Approximation
2	2.12 Making Money Work		
3	2.13 Looking for loan		
1	2.13 Looking for loan	2.21 Misleading Claims	2.3 Piano Tuners
2	2.14 Buy a house?		
3	3.18 Tax		
1	3.18 Tax	2.18 Holiday Money	2.3 Piano Tuners
2	2.15 What happens to pay?		
3	2.15 What happens to pay?		
1	2.16 One out of a hundred	2.18 Holiday Money	2.4 Stocking Supermarket
2	2.16 One out of a hundred		
3	3.19 Indices and Currency		
1	3.19 Indices and Currency	2.19 Budgeting	2.4 Stocking Supermarket
2	2.17 Monitoring Inflation		
3	2.17 Monitoring Inflation		
1	HT		HT
2	HT		HT
3	HT		HT
1	Exam Week	Exam Week	Exam Week
2	Exam Week		
3	Exam Week		
1		2.19 Budgeting	