THE ARNEWOOD SCHOOL
KEY STAGE 3 MATHS

Implementation:

Students in set 1, 2 and 3 will be entered into the higher tier exam

Students in sets 4, 5 and 6 will be entered into the foundation tier exam

Year 9

Pathway A – Aiming for GCSE grades 7, 8 and 9

Half term	Curriculum focus	Landmark assessment
Autumn 1	Distance-Time Velocity-Time Simple SUVAT equations	Students will be given an assessment on all work covered in Aut 1
Autumn 2	Proportion Similar shapes Area and Volume scale factor	Students will be given an assessment on all work covered in Aut 1 & Aut 2
Spring 1	Upper and Lower bounds Quadratic formula Fractional/Negative Indices Rearranging formula	Students will be given an assessment on all work covered since September
Spring 2	Scatter graphs Venn Diagrams Averages	Students will be given a non-calculator and calculator assessment on all work covered to date. Formal assessment in the hall.
Summer 1	Surds Exact trig values Sin and Cos rule Segments	No assessment Teacher own assessment
Summer 2	Quadratic inequalities Algebraic fractions Quadratic simultaneous equations	Students will be given a Non Calculator and Calculator assessment on all topics covered in year 7
All questions used in assessments will be real, appropriately challenging, GCSE questions and will aim to prepare students for the GCSE exams.		

Co-Curricular:

Students are invited to take part in the Junior Maths Challenge

Year 10

Half term	Curriculum focus	Landmark assessment
Autumn 1	Quadratic sequences Functions Iterations	Students will be given an assessment on all work covered in Aut 1
Autumn 2	Circle Theorems Equations of tangents 3D Pythagoras	Students will be given an assessment on all work covered in Aut 1 & Aut 2
Spring 1	Completing the Square Column vectors	Students will be given an assessment on all work covered since September
Spring 2	Vectors Proof Congruency	Students will be given a non-calculator and calculator assessment on all work covered to date. Formal assessment in the hall.
Summer 1	Sin, Cos, Tan graphs Equations of circles Graph transformations	No assessment Teacher own assessment
Summer 2	Cumulative Frequency Box and Whiskers Histograms Transformations	Students will be given a Non Calculator and Calculator assessment on all topics covered in year 7
All questions used in assessments will be real, appropriately challenging, GCSE questions and will aim to prepare students for the GCSE exams.		

Co-Curricular:

Students are invited to take part in the Junior Maths Challenge

Year 11:

Students will be given weekly GCSE style assessments in lessons.
Students will be given a formal mock exam in November and March.
Students will be issued with examination booklets of past papers.
Students will be invited to attend a regular Wednesday afterschool revision session.
Teachers will be responding to weekly home works and tests to plan appropriate lessons.
There will also be a focus on multi staged questions linking topics together.

Teachers structure year 11 lessons using the topic overview below as guidelines for what should be studied as way of revision.

Number

Topic	Grade 3	Grade 5	Grade 7	Grade 9
HCF, LCM and PPF	✓	✓	✓	✓
Laws of Indices	✓	✓	✓	✓
Rounding	✓	✓	✓	✓
BIDMAS	✓	✓	✓	✓
Sharing in a Ratio	✓	✓	✓	✓
Recipe Questions	✓	✓	✓	✓
% of an amount	✓	✓	✓	✓
% Increase and Decrease	✓	✓	✓	✓
F.D.P	✓	✓	✓	✓
Fractions		✓	✓	✓
Standard Form		✓	✓	✓
Rounding and Estimation		✓	✓	✓
Reverse percentages		✓	✓	✓
Error Intervals		✓	✓	✓
Proportion		✓	✓	✓
Compound Interest		✓	✓	✓
Surds			✓	✓
Calculations with bounds			✓	✓
Proportion - Direct and Inverse notation			✓	✓

Algebra

Topic	Grade 3	Grade 5	Grade 7	Grade 9
nth term	✓	✓	✓	✓
Drawing linear graphs	✓	✓	✓	✓
Expand and Factorise single brackets	✓	✓	✓	✓
Solve linear equations	✓	✓	✓	✓
Solve linear inequalities	✓	✓	✓	✓
Substitution	✓	✓	✓	✓
Drawing quadratic graphs		✓	✓	✓
Expand double brackets		✓	✓	✓
Factorise quadratics		✓	✓	✓
Rearrange formulaw		✓	✓	✓
Solve linear simultaneous equations algebraically		✓	✓	✓
Solve linear simultaneous equations graphically		✓	✓	✓
Graphical inequalities and regions		✓	✓	✓
y=mx+c		✓	✓	✓
Parallel and perpendicular lines			✓	✓
Transformations of graphs			✓	✓
Simplify algebraic fractions			✓	✓
Solve algebraic fractions			✓	✓
Solve quadratic inequalities			✓	✓
Rearranging involving factorising			✓	✓
Equations of circles and tangents			✓	✓
Iteration			✓	✓
Quadractic and Geometric Sequences				✓
Completing the Square			✓	✓
Functions			✓	✓
Functions - inverse				✓
Algebraic proof				✓
Solve quadratic simultaneous equations				✓
Expand more than two brackets			✓	✓

Shape, Space, Measure

Topic	Grade 3	Grade 5	Grade 7	Grade 9
Parallel lines and polygons	✓	✓	✓	✓
Construct a triangle	✓	✓	✓	✓
Bearings	✓	✓	✓	✓
Transformations	✓	✓	✓	✓
Circles	✓	✓	✓	✓
Perimeter and Area	✓	✓	✓	✓
Volume and Surface area of prisms	✓	✓	✓	✓
Speed, Distance, Time	✓	✓	✓	✓
Loci		✓	✓	✓
Constructions		✓	✓	✓
Pythagoras		✓	✓	✓
Trigonometry		✓	✓	✓
Area and perimeter of sectors		✓	✓	✓
Volume and Surface area of cones and spheres		✓	✓	✓
Similar shapes - Length, Area and Volume		✓	✓	✓
Congruent Shapes		✓	✓	✓
Distance-Time Graphs		✓	✓	✓
Velocity-Time Graphs		✓	✓	✓
Velocity-Time Graphs - Linear Distance and Acceleration		✓	✓	✓
Velocity-Time Graphs - Non-Linear Distance and Acceleration			✓	✓
Bearings and Scale Drawings		✓	✓	✓
Vectors		✓	✓	✓
Circle Theorems			✓	✓
Advanced Trigonometry			✓	✓
3D Pythagoras and Trigonometry			✓	✓
Circle Theorems Proof				✓
Area under graphs				✓

Handling

Topic	Grade 3	Grade 5	Grade 7	Grade 9
Averages	✓	✓	✓	✓
Scatter Graphs	✓	✓	✓	✓
Probability	✓	✓	✓	✓
Pictograms	✓	✓	✓	✓
Stem and Leaf	✓	✓	✓	✓
Pie Charts	✓	✓	✓	✓
Averages from tables and Grouped Data		✓	✓	✓
Sampling		✓	✓	✓
Probability Trees - independent		✓	✓	✓
Probability Trees - dependent		✓	✓	✓
Venn Diagrams		✓	✓	✓
Set Notation		✓	✓	✓
Cumulative Frequency			✓	✓
Box Plots			✓	✓
Histograms			✓	✓
Probability - Set Theory			✓	✓