

## Maths Rationale

Key Stage 3 pupil's learning is greatly focused towards developing a strong and broad platform of mathematic understanding, as well as building independent and problem solving skills. Consequently pupils develop their own ability to explore, discover and establish understanding about life around them. Key stage 4 pupils are well matched to appropriate accreditation and certification such as Entry Level Certificates, NCFE Level 1 awards and GCSE where appropriate.

"The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on."

ACADEMY

## KS3 Curriculum

Students follow the scheme of work for their pathway.

For more detailed curriculum mapping see Key stage 3 Progression pathways document.

Please click on Pathway hyperlink full scheme of work.

Silver Pathway	Gold Pathway	Platinum Pathway	Platinum Plus
<ul style="list-style-type: none"> <li>• Read and write numbers from 1 to 20 in numerals and in words</li> <li>• Count to and across 100, forwards and backwards from any given number</li> <li>• Count from zero in multiples of 2, 5 and 10</li> <li>• Add and subtract a two-digit number and a one-digit number up to 20</li> <li>• Solve one-step multiplication and division problems by using concrete objects and pictorial representations</li> <li>• Write addition and subtraction statements using the symbols '+', '-' and '='</li> <li>• Recognise and name the fractions <math>\frac{1}{2}</math> and <math>\frac{1}{4}</math></li> <li>• Tell the time to the hour, and half past the hour, using an analogue clock</li> </ul>	<ul style="list-style-type: none"> <li>• Read and write numbers up to 100 in numerals and in words</li> <li>• Compare and order whole numbers up to 100</li> <li>• Count from zero in multiples of 2, 3 and 5</li> <li>• Count in tens from any number, forwards and backwards</li> <li>• Add and subtract numbers including a two-digit number and ones, a two-digit number and tens, two two-digit numbers, and three one-digit numbers</li> <li>• Derive addition and subtraction facts to 100 using known facts to 20</li> <li>• Write multiplication and division statements using correct symbols</li> <li>• Understand that addition and multiplication of two numbers can be done in any order (commutative) and subtraction and division cannot</li> </ul>	<ul style="list-style-type: none"> <li>• Read and write numbers up to 1000 in numerals and in words</li> <li>• Compare and order whole numbers up to 1000</li> <li>• Count from zero in multiples of 4, 8, 50 and 100</li> <li>• Add and subtract numbers mentally including a three-digit number and ones, tens and hundreds</li> <li>• Use columnar addition and subtraction with numbers up to three digits</li> <li>• Use known facts to multiply and divide mentally within the 2, 3, 4, 8 and 10 multiplication tables</li> <li>• Multiply a two-digit number by a one-digit number</li> <li>• Understand fractions as proportions</li> <li>• Understand fractions as numbers</li> <li>• Count forward and backwards in tenths</li> </ul>	<ul style="list-style-type: none"> <li>• Round any number to the nearest 10, 100, 1000 and round a number with one decimal place to the nearest whole number</li> <li>• Count backwards through zero</li> <li>• Use columnar addition and subtraction with numbers up to four digits</li> <li>• Multiply two- and three-digit numbers by a one-digit number</li> <li>• Use known and derived facts to multiply and divide mentally</li> <li>• Write any number of tenths or hundredths as a decimal</li> <li>• Find families of common equivalent fractions</li> </ul>

<ul style="list-style-type: none"> <li>Sequence events in chronological order</li> <li>Use the comparative vocabulary of length, mass, capacity and time</li> <li>Recognise and name rectangles (including squares), circles and triangles</li> <li>Recognise and name cuboids (including cubes), pyramids and spheres</li> <li>Describe position and movement</li> </ul>	<ul style="list-style-type: none"> <li>Recognise and name the fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math></li> <li>Tell the time to the nearest five minutes using an analogue clock, including 'quarter past' and 'quarter to'.</li> <li>Use a ruler to measure lengths in millimetres and centimetres</li> <li>Identify and describe 2D and 3D shapes</li> <li>Use mathematical vocabulary to describe position, direction and movement</li> </ul>	<ul style="list-style-type: none"> <li>Tell the time using analogue and digital 12-hour clocks</li> <li>Measure length (mm, cm, m), mass (g, kg) and capacity (ml, l)</li> <li>Measure perimeters of shapes</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract fractions with the same denominator</li> <li>Find areas of rectilinear shapes by counting squares</li> <li>Use a line of symmetry to complete a symmetric shape or pattern</li> <li>Identify lines of symmetry in 2D shapes</li> <li>Use coordinates in the first quadrant</li> <li>Interpret and construct bar charts and time graphs</li> </ul>
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**KS4 Curriculum Year 10 - 11**

For more detailed curriculum mapping see Key stage 4 Progression pathways document.

Pupils work towards accreditations and certification in Maths

<p><b>Silver Pathway</b> AQA Entry level 1 and 2 Certificate</p>	<p><b>Gold Pathway</b> AQA Entry Level 3 Certificate</p>	<p><b>Platinum Pathway</b> NCFE Level 1 Awards in Mathematics</p>	<p><b>Platinum Plus</b> GCSE</p>
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ACADEMY

Properties of numbers The four operations Ratio Money The Calendar and time Measures Geometry Statistics	Properties of numbers The four operations Ratio Money The Calendar and time Measures Geometry Statistics	To be awarded the NCFE Level 1 Certificate in Maths, learners are required to successfully complete 8 mandatory units and one optional unit. <ul style="list-style-type: none"> <li>▪ Working with whole numbers</li> <li>▪ Working with fractions</li> <li>▪ Working with decimals and percentages</li> <li>▪ Working with measurement</li> <li>▪ Working with 2D shapes and space</li> <li>▪ Working with money</li> <li>▪ Working with statistics</li> <li>▪ Working with probability.</li> <li>▪ Working with basic algebra and geometry</li> </ul>	1 Number 2 Algebra 3 Ratio, proportion and rates of change 4 Geometry and measures 5 Probability 6 Statistics
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## KS5

The curriculum develops learner's skills, knowledge and understanding to ensure they have the breadth of knowledge and mathematical understanding in order to succeed at their chosen Further Education establishment. Learners go on to study maths in a variety of ways at Blackfriars FE, Walton Hall and Reaseheath College.

