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| **MATHEMATICS****Aims/Intent:** Our intention is to equip all our students with knowledge and a range of numeracy skills that will enable them to build a positive pathway in the future. In order to achieve this, we follow the Key Stage 3 and 4 national curriculums.We provide a safe environment in which students are supported to take risks with their learning, strengthen their resilience, confidence and successes.We achieve these through a variety of strategies which involve logical thinking, problem solving and applying previous knowledge.The aim for KS3 students is preparing a foundation for their GCSE in later stage.The aim for year 10 is preparing them for their GCSE success and provide opportunities to secure them with additional Functional Skills Qualifications. Year 11 mainly focuses on their GCSE and the Functional Skills Qualifications through an enriching and engaging scheme of work. |
| **Implementation Maths Curriculum**Staff aim to build positive relationship with students and adopt a holistic style of learning that takes into account their social and emotional needs.Learners are taught in small groups. Interventions and 1 to 1 support are provided for students with low ability and special educational needs.Teaching is adapted so that all learners are able to engage. Nurture and support are provided so that learners gain confidence and feel motivated to learn.Enriching, engaging and robust schemes of work (for different year groups) are the keys for students’ success. The schemes of work help staff to deliver teaching to a high standard.Our curriculum is delivered with a flexible approach, taking into account the varied ability of our learners.This is to ensure all learners make progress and giving them the opportunity to reach their full potential.[Brief description of the subjects and approach]**GCSE and Maths Functional Skills Level 1 and 2** |
| **Key Stage 3** |
| **Course overview/Implementation [**Whether there isone stream or multiple approaches to teaching]**:** |
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| **Autumn** **Assessment** |   **NUMBERS:** * The four operations
* Types of numbers
* Prime numbers
* Factors and Multiples HCF, LCM
* Decimals

**HANDLING DATA:*** Surveys and types of charts (bar, pie,…)

**ALGEBRA:*** Algebraic manipulations (collecting like terms, …)

**SHAPE, SPACE & MEASURE:*** Angles (types, reading and measure)
* Angles in parallel lines and triangles

End of the term assessments  |
| **Spring** **ASSESSMENT** | **NUMBERS:*** Fractions: Definitions, equivalent and simplifying fractions
* Addition, subtraction, multiplication and division of fractions
* Rounding numbers to nearest 10, 100, 1000, …
* Rounding to decimal places
* Rounding to significant figures

**ALGEBRA:*** Rearranging formula
* Substitution
* Sequences and patterns
* Working on nth terms
* Coordinates on x and y axes
* Plotting points on x and y axes

End of the term assessments**HANDLING DATA:*** Averages: Mean, Median, Mode and Range
* Scatter graphs (Correlations, The line of best fit)

**SHAPE, SPACE & MEASURE:*** 2D shapes and their properties
* Congruent shapes and triangles
* Similar triangles
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| **Summer**  |  **NUMBERS:*** Ratio: simplifying
* Sharing in a ratio
* Proportion: direct and inverse
* Percentages
* Percentage of an amount
* Percentage increase and decrease

**ALGEBRA:*** Graph of straight line y = mx + c
* Solving algebraic equations
* Solving inequalities

**HANDLING DATA:*** Probability

 **SHAPE, SPACE & MEASURE:*** Circle properties
* Circumference of circle
* Area of circle
* Volume of 3D shapes (Cube, cuboid…)
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| **Assessment**  | * **End of the year exam (internally)**
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| **Key Stage 4** |
| **Course breakdown: [**Whether there isone stream or multiple approaches to teaching]* GCSE for year 11 (Higher and Foundation tiers)
* Functional Skills level 1 and 2 in maths
* End of the year 10 exams (Internally)
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|  |  **Year 10**  |  **Year 11**  |
| **Autumn** **Assessment** | **Numbers*** Read & Write large numbers
* Recognising positive and negative numbers
* Multiplying and dividing by 10, 100, 1000...
* Order of operations (BIDMAS)
* Fractions; comparing and working on fraction of an amount

**Shape Space Measure*** Calculate simple interest
* Calculate percentage change
* Conversion of measurement units

**Handling Data*** Representing data in charts and graphs
* Working on group data
* Analysing group data
* **Functional Skills Exam Level 1**

**End of the term assessments** | **Numbers*** Ordering numbers
* Multiplying and dividing by 10, 100, 1000…
* Factors and Multiples
* Prime factors/HCF/LCM
* Fractions
* Decimals
* Percentages

**Algebra*** Power an indices rules
* Square and square roots
* Cube and cube roots
* Expanding brackets.

**Graphs*** Coordinates
* Midpoints
* Straight line graph
* Parallel lines

**Ratio & Proportions*** Ratio
* Ratio problem solving

**Geometry &Measure*** 5 Angle rules
* Angles in parallel lines
* Angles in polygons
* Congruent shapes
* Similar shapes& triangles
* Transformations

 **End of the term assessments** |
|  |  **Year 10**  |  **Year 11**  |
| **Spring** **Assessment** | **Numbers*** Working on different types of numbers
* Long Multiplication
* Long Division
* BIDMAS
* Fractions; Mixed numbers
* Adding and subtracting fractions
* Direct proportions
* Inverse proportions
* Speed & Density
* Area of triangles
* Area of Circle

**Shape Space Measures*** Money problems
* Fraction of an amount
* Percentage of an amount
* Compound interest
* Rates of pay/taxes
* Metric and Imperial units
* Conversion between units

**Shape Space Measures*** Area of a Square
* Area of a rectangle
* 3D shapes drawing and their Nets
* Working on surface area and volume of 3D shapes

**Handling Data*** Averages
* Working on Median and Mode
* Using averages to analyse and compare data
* Using conversion graphs
* Probability formula
* Working on probability from diagrams
* Scatter graphs
* Working on correlations
* Working on line of best fit

End of the term assessments | **Graphs*** Quadratic graphs
* Turning points
* Cubic graphs
* Reciprocal graphs

**Algebra*** Multiplying brackets
* Factorising quadratic expressions and equations
* Substitution
* Solving quadratic equations
* Number patterns
* Linear sequences
* Inequalities

**Graphs*** Travel graphs
* Conversion graphs
* Rate of change

**Geometry & Measure*** 2D shapes
* Perimeter and area of 2D shapes
* Circle properties
* Triangle constructions
* Loci constructions
* Tessellations
* 3D shapes
* Volume
* Surface area
* Projection
* Circle theorem
* Bearings
* Vectors

**Ratio & Proportions*** Compound variables (Speed, Density and Pressure)
* Best buy

**Probability & Statistics*** Averages
* Estimated mean
* Cumulative frequency graph
* Plotting box plot and comparison

**Probability & Statistics*** Pie chart
* Scatter graphs
* Histograms

End of the term assessments |
| **Summer**  | **Shape Space Measures*** Scale drawing
* Coordinates
* Angles in 2D shapes

**Probability & Statistics*** Pie chart
* Histograms

**Geometry & Measure*** Bearing
* Vectors
* Circle properties
* Circle circumference and area
* Sector, Segments
* Four types of transformations

**Pythagoras & Trigonometry*** Trig ratios

**Algebra*** Number patterns
* Linear sequences

**Functional Skills Exam Revision****Functional Skills Exams L1 & L2****Assessments and exams** (Internally and Externally) | **Algebra*** Simultaneous equations
* Trial and improvements
* Proof
* Functions
* Iterative methods

**Pythagoras & Trigonometry*** Trig rules
* Area of triangle using trig
* Trig common values

**Revision , past papers and preparation for exams****GCSE Examinations** |
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| **Impact:**Learners become fluent in the fundamentals of mathematics through variety and frequent practices during school time and at home. These give them opportunity to secure a range of mathematics qualifications (GCSE, Functional Skills…) that will enable them to access future education and a range of exciting careers.Assessment of students’ progress are being done by improving their attendance, behaviour and academic success.Tools to gauge progress is through pupils’ voice, planning lessons, monitoring their books, display, learning walks, discussions with teaching staff and parents and other external agencies involved.KS3 students become Mathematical thinkers through problem solving, classic maths curriculum.KS4 students succeed through GCSE and Functional Skills Qualifications.Respite students learn how to be resilient, successful risk takers, learners through mentoring and working extensively on numeracy. **Staff** |
| [List staff: Head of Subject, Teachers, key TAs)\* Ahmad Amani (HoD)\* Adrian Grzywinski Maths Teacher at Whetstone site\* Susan Biggins Maths Teacher at Meadway site, Hospital& Outreach\* Bernie Howkins, Maths Teacher at Meadway site\* Athavale Rajashri Teacher Support at Meadway site\* Clem Browne Maths Teacher Outreach\* Issac Osuagwu Maths and Business Studies Teacher at Whetstone & Meadway sites |