Mathematics – KS4 (GCSE)

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The Maths department offer skills in line with the national curriculum under five categories namely: algebra, calculating, geometry and measures, number systems, and statistics and probability. Teaching is engaging which enables pupils to acquire key mathematical skills that builds on their prior knowledge and addresses any gaps in understanding. The Maths curriculum is supplemented by access to White Rose Maths subscription. Students works towards Entry Level Certificate, Award in Number and Measure and or GCSE.

Entry Level qualification is available at Entry Level 1, Entry Level 2 or Entry Level 3). The Pearson Edexcel Entry Level Certificate in Mathematics consists of one externally-set test and one externally-set task for Entry 1 and 2 and two externally-set tests and one externally-set task for Entry 3.

Award in Number and Measure These Level 1 and Level 2 Awards qualifications consist of a single assessment at each level. Students are entered at either Level 1 or Level 2. Each assessment consists of two sections. Each award is pass or fail.

GCSE qualification-There are two tiers of entry available. Each student is permitted to take assessments in either the Foundation tier or Higher tier. All three papers must be from the same tier of entry and must be completed in the same assessment series.

Syllabus materials KS4:

Edexcel Entry Level Certificate Mathematics | Pearson qualifications

Edexcel Awards in Number and Measure | Pearson qualifications

Maths GCSE | Edexcel GCSE Mathematics (2015) | Pearson qualifications

Careers in Maths:
1438_My Learning My Future_Mathematics_FINAL.pdf (careersandenterprise.co.uk)

Schemes of work:

*Although there is a clear structure to the maths curriculum, additional time may be needed to review content from previous years.

Year 10	**Number- Maths and Money** • Earnings, Taxes and Bills budgets and loans **Key vocabulary** • Earnings • Taxes • Bills • Budgets • Loans • Holiday	**Handling data -Stastical Measure** • Cumulative frequency • Scatter graphs • Averages from a list/table **Key vocabulary** • Grouped frequency table • Frequency • Discrete • Line of best fit **Geometry and Measure -menstartion**	**Number – Properties of number** • Powers/roots • Standard form **Key vocabulary** • Power • Roots • Standard Form **Algebra - Functions, coordinates and graphs**	**Geometry and measure – constructions** • Scale diagrams **Key vocabulary** • Scale • Scale diagram • Scale factor **Algebra -sequences** • Nth term of a quadratic sequence	**Number - Ratio and proportion** • Graphs (conversion) **Key vocabulary** • Currency • Conversion • Direct proportion • Proportional **Handling data –probability**	**Geometry and Measure - transformations** • Enlarge a shape **Key vocabulary** • Translate • Translation • Centre of enlargement **Handling data- interpreting and representing data**

	Number -Fractions, decimals and percentages • Convert between fractions, decimals and percentages • Percentage increase/decrease **Key vocabulary** • Decrease • Increase • Reduction • Convert • Multiplier	• Circles- area and circumference • Volume-cubes/cuboids **Key vocabulary** • Volume • Prism • Cross section • Circumference • Pi • Cylinder • Volume • litre	• Distance speed graphs **Key vocabulary** • Distance • Speed • Time • Average speed • Acceleration • Deceleration **Geometry and Measure - geometrical reasoning** • Multi step angle problems • Parallel/perpendicular lines • Interior/external angles polygons **Key vocabulary** • Parallel • Perpendicular • Intersect • Interior • Exterior	**Key vocabulary** • Algebraic rule **Algebra - equations** • 1 and 2 step equations • Inequalities • Expand brackets and simplify • Solving Expressions **Key vocabulary** • Expression • Substitute	• Probability-tree diagrams • Combined events **Key vocabulary** • Combined event • Tree diagram	• Straight Line graphs • Pie charts **Key vocabulary** • Gradient • Values • Axes • Equation • Angle • Sector
Year 11	**Number – Properties of Number** • Rounding (R) • HCF and LCM (R) • Square and cube numbers (R) • Powers and Roots (R) • Order of operations (R) • Powers of 10/standard form (R) **Key vocabulary** • Power of 10 • Direct and Inverse proportion **Number -Fractions, decimals and**	**Handling data** • Construct and interpret frequency table and two way tables (R) • Construct and interpret line graphs, bar charts scatter graphs and pie charts (R) • Stem Leaf diagrams **Geometry and measure** • Parallel/perpendicular lines • Volumes- prisms, cylinders • Vectors • Circle therom • Pythagoras Theorem • Trigonometric	**Number - Ratio and proportion** • Compare quantities using a ratio • Link ratio to fractions • Share in a ratio • Ratio and scales • Ratio and Graphs • Inverse/direct proportion • Interest **Key vocabulary** • Direct proportion • Unit cost • Proportional **Handling data Probability**	**Revision**		

	percentages • Convert and compare fractions, decimals and percentages (R) • Percentages of amounts • Percentage increase/decrease (R)	• Loci **Key vocabulary** • Pythagoras • Hypotenuse • Interior angle • Exterior angle • Polygon, • Nonagon • Decagon **Algebra- Equations** • One and two step equations • Nth term of a liner sequence (• Straight line graphs • Simultaneous equations • Quadratic equation graphs • Factorising **Key vocabulary** • Constant • Gradient • Quadratic • Tangent	• Probability of equally likely outcome (R) • Probabilities sum to 1 (R) • Tree diagrams (R) • Probability with Venn diagrams **Key vocabulary** • Combined Event • Mutually exclusive **Revision**			