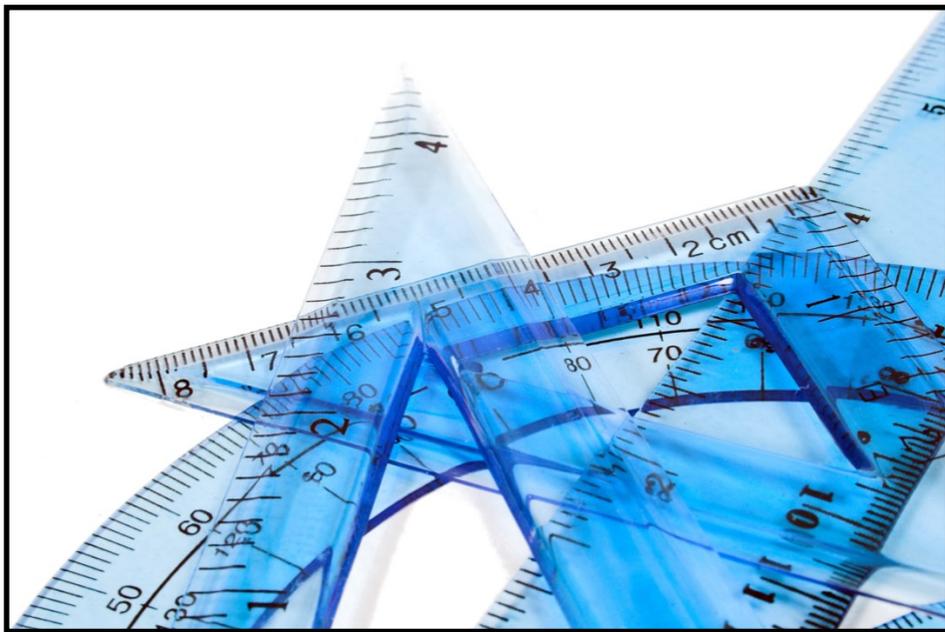# Buile Hill Academy
Enriching Lives, Inspiring Ambitions

Curriculum Guide For Parents: **Mathematics**

Consilium Academies

Our Vision and Approach in Maths

The Maths department at Buile Hill Academy aims to shape confident mathematicians who relish the challenge of maths. We support students to become independent, reflective thinkers, whose skills not only liberate them in maths but also empower them to engage effectively across the curriculum.

We build deep understanding, confidence and competence in mathematics. As well as being fluent mathematicians, we want students to be able to reason and to solve problems.

What our students will learn

Our ambitious and connected curriculum is sequenced to cover the following topics throughout the academic year:

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measures
- Probability
- Statistics

The curriculum places great emphasis on mathematical language and questioning so students can discuss the mathematics they are doing, and so support them to take ideas further.

The breakdown of topics covered across the year groups is detailed in the grid below. Please note this is subject to change as we adapt our curriculum to meet the needs of our students.

Buile Hill Academy
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		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Stage 3	**Yr 7**	Algebraic Thinking Sequences Understanding and using algebraic notation Equality and equivalence	Place Value and Proportion Place value and ordering integers and decimals Fraction, decimal and percentage equivalence	Applications of Number Solving problems with addition and subtraction Solving problems with multiplication and division	Directed Number Four operations with directed number Fractional thinking Addition and subtraction of fractions	Lines and Angles Constructing, measuring and using geometric notation	Reasoning with Number Developing number sense Sets and probability Prime numbers and proof
	Yr 8	Proportional Reasoning Ratio and scale Multiplicative change Multiplying and dividing fractions	Representations Working in the Cartesian plane Representing data Tables & Probability	Algebraic Techniques Brackets, equations and inequalities Sequences Indices	Developing Number Fractions and percentages Standard index form Number sense	Developing Geometry Angles in parallel lines and polygons Area of trapezia and circles Line symmetry and reflection	Reasoning with Data The data handling cycle Measures of location
	Yr 9	Reasoning with Algebra Straight Line Graphs Forming and Solving Equations Testing Conjectures	Constructing in 2 and 3 Dimensions Three-dimensional shapes Constructions and congruency	Reasoning with Number Numbers Using percentages Maths and Money	Reasoning with Geometry Deduction Rotation and translation Pythagoras' Theorem	Reasoning with Proportion Enlargement and Similarity Solving Ratio and Proportion Problems Rates	Representations and Revision Probability Algebraic Representation Revision
Key Stage 4	**Yr 10 Foundation**	Unit 1 Number Unit 2 Algebra	Unit 3 Graphs, tables and charts Unit 4 Fractions and percentages Unit 5 Equations, inequalities and sequences	Unit 6 Angles Unit 7 Averages and range Unit 8 Perimeter, area and volume 1	Unit 9 Graphs Unit 10 Transformations	Unit 11 Ratio and proportion Unit 12 Right-angled triangles	Unit 13 Probability Unit 14 Multiplicative reasoning Unit 15 Constructions, loci and bearings
	Yr 10 Higher	Unit 1 Number Unit 2 Algebra	Unit 3 Interpreting and representing data Unit 4 Fractions, ratio and proportion Unit 5 Angles and trigonometry	Unit 6 Graphs Unit 7 Area and volume Unit 8 Transformation and constructions	Unit 9 Equations and inequalities Unit 10 Probability	Unit 11 Multiplicative reasoning Unit 12 Similarly and congruence	Unit 13 More trigonometry Unit 14 Further statistics Unit 15 Equations and graphs
	Yr 11 Foundation	Unit 16 Quadratic equations and graphs Unit 17 Perimeter, area and volume 2 Unit 18 Fractions, indices and standard form	Unit 19 Congruence, similarity and vectors Unit 20 More algebra	Revision	Revision		
	Yr 11 Higher	Unit 16 Circle theorems Unit 17 More algebra	Unit 18 Vectors and geometric proof Unit 19 Proportion and graphs	Revision	Revision		

Consilium Academies

How you can support your child's learning in Mathematics:

- Students will have a knowledge organiser for each of their schemes of learning. Students can use these to test themselves on the content throughout the term.
- Question your child on what they have learnt in lesson and help them to practice their times tables regularly.
- The students' homework will be set on Hegarty Maths once a week. Please encourage them to watch the supporting videos and to make notes before attempting the homework questions.
- Have a growth mindset - Avoid saying things like:like "I can't do maths" or "I didn't like maths at school" – your child may start to think like this themselves.

Point out the maths in everyday life. Include your child in activities involving numbers and measuring such as shopping, cooking and travelling. You could talk about the amount of money you have when you go shopping, how much the items cost and how much you have left after you have paid the bill. When baking, encourage your child to read the recipe and measure out the ingredients accurately, and when you are travelling, discuss location and direction.

Websites you can visit:

https://hegartymaths.com/

- Maths homework is set on a website called Hegarty Maths. This is an amazing website that gives video support for every question student's attempt, to make sure that homework can be completed independently. It also comes with some fantastic revision features to support students in doing some independent revision. It covers the whole curriculum with over 600 videos and 40,000 bespoke questions.
- This homework can be completed on any device with an internet connection. They will need to write notes on the video and all their working out, so they will need some paper to do this. Logging in is easy - simply choose the school name, and then use their name and date of birth to log in. If your child is struggling to log in, please let their maths teacher know so they can check they are logging in with the correct details.
- We would like to encourage you to log in with your child to see what they are doing. You can watch the videos with them to see what methods they should be using, and you can view all of their past scores to see which areas they are struggling on.

https://whiterosemaths.com/homelearning/

- White Rose have produced short 'home learning' videos for each lesson. These show clearly and simply how to help your child to complete their class activities successfully.

https://www.bbc.co.uk/bitesize/subjects/z6vg9j6

- BBC Bitesize has a range of easy to follow lessons and videos to further support learning, revision and homework. The information has been written by subject teachers and covers a broad range of topics.

https://classroom.thenational.academy/subjects-by-key-stage

- Oak National Academy provides free video lessons, slides and worksheets to support students to keep learning. We recommend using Oak's resources to help your child recap, revise or catch up on any lost learning from school.

Books you can purchase:

To master revision we suggest purchasing both a Revision Guides and a Revision Workbooks. This way the students will get plenty of exam-style worked examples and support to help them to understand key concepts before being applying this knowledge to practice questions. Remember that Maths is a tiered subject, so please check before you buy if it is the higher or foundation tier set of books that are required.

Pearson Revision Guides

Pearson Edexcel GCSE (9-1) Mathematics Foundation Tier Revision Guide

https://www.amazon.co.uk/REVISE-Edexcel-Mathematics-Higher-Revision/dp/1447988094/ref=sr_1_8?dchild=1&keywords=edexcel+maths+revision+guide&qid=1626439545&s=books&sr=1-8

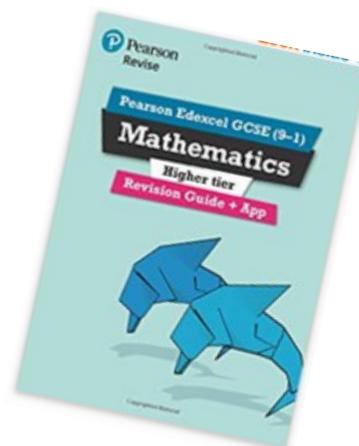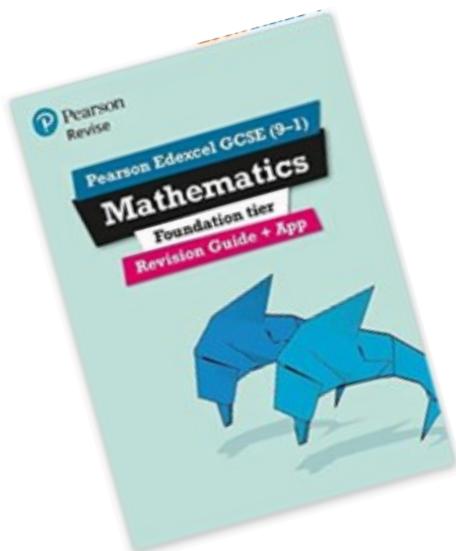Pearson Edexcel GCSE (9-1) Mathematics Foundation Tier Revision Workbook

Pearson Edexcel GCSE (9-1) Mathematics Foundation tier Revision Workbook: Catch-up and Revise: for home learning, 2021 assessments and 2022 exams (REVISE Edexcel GCSE Maths 2015) : Marwaha, Navtej: Amazon.co.uk: Books

Pearson Edexcel GCSE (9-1) Mathematics Higher Tier Revision Guide
https://www.amazon.co.uk/REVISE-Edexcel-Mathematics-Foundation-Revision/dp/1447988043/ref=pd_sbs_5/259-3993300-6915333?pd_rd_w=VSDPq&pf_rd_p=a3a7088f-4aec-4dbd-97cc-9a059581fe7b&pf_rd_r=V47PYMHQJGTD1VV1SEPB&pd_rd_r=73458eb7-7fe2-44c0-ae06-838a1c743609&pd_rd_wg=VkjUs&pd_rd_i=1447988043&psc=1

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