

# Year 10 Revision Booklet 2024



**This booklet contains all the GCSE and BTEC subjects that will be sat in year 11.**

**You have been given spaces to complete the following:**

- 1. RAG rate all the topics for your subjects. This will allow you to see where you feel confident and which topics you need to prioritise.**
- 2. Use these ratings to help you plan and organise your revision into a timetable.**
- 3. Revisit the RAG ratings at different intervals to check your progress.**

# English Language

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Paper 1 Reading Skills</b> Q1-List/find questions			
<b>Paper 1 Reading Skills</b> Q2-Language analysis			
<b>Paper 1 Reading Skills</b> Q3-Structure analysis			
<b>Paper 1 Reading Skills</b> Q4-Evaluation			
<b>Paper 1 Writing Skills</b> Narrative Writing			
<b>Paper 1 Writing Skills</b> Descriptive writing			
<b>Paper 2 Reading Skills</b> Q1-True/false			
<b>Paper 2 Reading Skills</b> Q2-Summarise			
<b>Paper 2 Reading Skills</b> Q3-Language analysis			
<b>Paper 2 Reading Skills</b> Q4-Comparison			
<b>Paper 2 Writing Skills</b> Speeches			
<b>Paper 2 Writing Skills</b> Letters			
<b>Paper 2 Writing Skills</b> Articles			

# English Literature

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Romeo and Juliet</b> Plot			
<b>Romeo and Juliet</b> Key characters – traits, key scenes and quotes			
<b>Romeo and Juliet</b> Key themes – Conflict			
<b>Romeo and Juliet</b> Key themes – Love – romantic, family			
<b>Romeo and Juliet</b> Key themes – Youth vs age			
<b>Romeo and Juliet</b> Key themes – Fate			
<b>An Inspector Calls</b> Plot			
<b>An Inspector Calls</b> Key characters – traits, key scenes and quotes			
<b>An Inspector Calls</b> Key themes - Responsibility			
<b>An Inspector Calls</b> Key themes - Youth vs Age			
<b>An Inspector Calls</b> Key themes - Class			
<b>An Inspector Calls</b> Key themes - Gender			
<b>An Inspector Calls</b> Key themes - Capitalism vs Socialism			
<b>Power and Conflict Poetry</b> The general context for each poem			
<b>Power and Conflict Poetry</b> How poems are linked by theme			
<b>Power and Conflict Poetry</b> 3-5 quotes per poem			

# Maths

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**Subject Content**


**Number** ..... 1  
**Algebra** ..... 2  
**Ratio, Proportion, Rates of Change** ..... 3  
**Geometry and Measures** ..... 4  
**Probability and Statistics** ..... 5

**Grades that will be examined:**

Higher	1	2	3	4	5	6	7	8	9
Foundation	1	2	3	4	5				

You will find some formulas and information in this insert. It will be very helpful to learn it all, off-by-heart for your exam.

Area of a circle =  $\pi r^2$   
 Circumference of a circle =  $2\pi r$



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**Grade 1**

Place Value ..... 1  
 Ordering Integers ..... 2  
 Ordering Decimals ..... 3  
 Reading Scales ..... 4  
 Simple Mathematical Notation ..... 5  
 Interpreting Real-Life Tables ..... 6  
 Introduction to Algebraic Conventions ..... 7  
 Coordinates ..... 8  
 Simple Geometric Definitions ..... 9  
 Polygons ..... 10  
 Symmetries ..... 11  
 Tessellations and Congruent Shapes ..... 12  
 Names of Angles ..... 13  
 The Probability Scale ..... 14  
 Tally Charts and Bar Charts ..... 15  
 Pictograms ..... 16


**Addition/Subtraction**

$(+)$  becomes + eg.  $5 - (-3) = 5 + 3$   
 $(-)$  becomes + eg.  $5 - (-3) = 5 + 3$   
 $(+)$  becomes - eg.  $5 + (-3) = 5 - 3$   
 $(-)$  becomes - eg.  $5 + (-3) = 5 - 3$


**Multiplication/Division**

$(+) \times (+)$  becomes + eg.  $(-5) \times (-3) = 15$   
 $(-) \times (-)$  becomes + eg.  $(-5) \times (-3) = 15$   
 $(+) \times (-)$  becomes - eg.  $(-5) \times 3 = -15$   
 $(-) \times (+)$  becomes - eg.  $(-5) \times 3 = -15$

Prime Numbers  
 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, ...  
 Each prime number has exactly two factors.



Area of a triangle =  $\frac{b \times h}{2}$



Area of trapezium =  $\frac{1}{2}(a + b)h$

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**Grade 2**

Adding Integers and Decimals ..... 17  
 Subtracting Integers and Decimals ..... 18  
 Multiplying Integers ..... 19  
 Dividing Integers ..... 20  
 Inverse Operations ..... 21  
 Money Questions ..... 22  
 Negatives in Real Life ..... 23  
 Translations ..... 24  
 Equivalent Fractions ..... 25  
 Simplifying Fractions ..... 26  
 Half-Way Values ..... 27  
 Factors, Multiples and Primes ..... 28  
 Introduction to Powers/Indices ..... 29  
 Multiply and Divide by Powers of 10 ..... 30  
 Rounding to the Nearest 10, 100 etc. .... 31  
 Simplifying - Addition and Subtraction ..... 32  
 Simplifying - Multiplication ..... 33  
 Simplifying - Division ..... 34  
 Function Machines ..... 35  
 Generating a Sequence - Term to Term ..... 36  
 Introduction to Ratio ..... 37  
 Using Ratio for Recipe Questions ..... 38  
 Introduction to Percentages ..... 39  
 Value for Money ..... 40  
 Introduction to Proportion ..... 41  
 Properties of Solids ..... 43  
 Nets ..... 44  
 Angles on a Line and at a Point ..... 45  
 Measuring and Drawing Angles ..... 46  
 Drawing a Triangle Using a Protractor ..... 47  
 Reflections ..... 48  
 Rotations ..... 49  
 Similar Figures ..... 50  
 Plans and Elevations ..... 51  
 Perimeters ..... 52  
 Area of a Rectangle ..... 53  
 Area of a Triangle ..... 54  
 Area of a Parallelogram ..... 55  
 Area of a Trapezium ..... 56  
 Frequency Trees ..... 57  
 Listing Outcomes ..... 58  
 Calculating Probabilities ..... 59  
 Mutually Exclusive Events ..... 60  
 Two-Way Tables ..... 61  
 Averages and the Range ..... 62  
 Data - Discrete and Continuous ..... 63  
 Vertical Line Charts and Diagrams ..... 64  
 Frequency Tables and Diagrams ..... 65

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**Grade 3**

Multiplying Decimals ..... 66  
 Dividing Decimals ..... 67  
 Four Rules of Negatives ..... 68  
 Listing Strategies ..... 69  
 Comparing Fractions ..... 70  
 Finding the nth Term ..... 71  
 Special Sequences ..... 72  
 Exchanging Money ..... 73  
 Sharing Using Ratio ..... 74  
 Ratios, Fractions and Graphs ..... 75  
 Increase/Decrease by a Percentage ..... 76  
 Percentage Change ..... 77  
 Reverse Percentage Problems ..... 78  
 Simple Interest ..... 79  
 Metric Conversions ..... 80  
 Problems on Coordinate Axes ..... 81  
 Surface Area of a Prism ..... 82  
 Volume of a Cuboid ..... 83  
 Circle Definitions ..... 84  
 Area of a Circle ..... 85  
 Circumference of a Circle ..... 86  
 Volume of a Prism ..... 87  
 Angles and Parallel Lines ..... 88  
 Angles in a Triangle ..... 89  
 Properties of Special Triangles ..... 90  
 Angle Sum of Polygons ..... 91  
 Bearings ..... 92  
 Expanding Brackets ..... 93  
 Simple Factorisation ..... 94  
 Substitution ..... 95  
 Straight Line Graphs ..... 96  
 The Gradient of a Line ..... 97  
 Drawing Quadratic Graphs ..... 98

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**Grade 4**

Index Notation ..... 131  
 Introduction to Bounds ..... 132  
 Midpoint of a Line on a Graph ..... 133  
 Expanding and Simplifying Brackets ..... 134  
 Rearranging Simple Formulae ..... 135  
 Forming Formulae and Equations ..... 136  
 Inequalities on a Number Line ..... 137  
 Solving Linear Inequalities ..... 138  
 Simultaneous Equations Graphically ..... 139  
 Fibonacci Sequences ..... 140  
 Compound Units ..... 141  
 Similar Shapes ..... 142  
 Similar Figures ..... 143  
 Similar Solids ..... 144  
 Similar Solids ..... 145  
 Similar Solids ..... 146  
 Similar Solids ..... 147  
 Similar Solids ..... 148  
 Similar Solids ..... 149  
 Similar Solids ..... 150  
 Similar Solids ..... 151  
 Similar Solids ..... 152  
 Similar Solids ..... 153


**Grade 5**

Negative Indices ..... 154  
 Error Intervals ..... 155  
 Mathematical Reasoning ..... 156  
 Factoringising and Solving Quadratics ..... 157  
 The Difference of Two Squares ..... 158  
 Finding the Equation of a Straight Line ..... 159  
 Roots and Turning Points of Quadratics ..... 160  
 Cubic and Reciprocal Graphs ..... 161  
 Simultaneous Equations Algebraically ..... 162  
 Geometric Progressions ..... 163  
 Compound Interest and Depreciation ..... 164  
 Ratio Questions ..... 165  
 Congruent Triangles ..... 166  
 Sectors of a Circle ..... 167  
 Trigonometry ..... 168  
 Spheres ..... 169  
 Pyramids ..... 170  
 Cones ..... 171  
 Frustums ..... 172  
 Exact Trigonometric Values ..... 173  
 Introduction to Vectors ..... 174  
 Harder Tree Diagrams ..... 175  
 Stratified Sampling ..... 176


**Pythagoras**  
 $a^2 + b^2 = c^2$




**Trigonometry**



$\sin A = \frac{a}{c}$



$\cos A = \frac{b}{c}$



$\tan A = \frac{a}{b}$

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**Grade 6**

Recurring Decimals to Fractions ..... 177  
 Product of Three Binomials ..... 178  
 Iterative Processes ..... 179  
 Perpendicular Lines ..... 180  
 Algebraic Fractions ..... 181  
 Simultaneous Equations with a Quadratic ..... 182  
 Solving Quadratic Inequalities ..... 183  
 Finding the nth Term of a Quadratic ..... 184  
 Inverse Functions ..... 185  
 Composite Functions ..... 186  
 Interpreting Graphs ..... 187  
 Pythagoras in 3D ..... 217  
 Trigonometry in 3D ..... 218  
 Vectors ..... 219

**Grade 7**

Fractional Indices ..... 188  
 Recurring Decimals - Proof ..... 189  
 Rearranging Difficult Formulae ..... 190  
 Solving Quadratics with the Formula ..... 191  
 Factorising Hard Quadratics ..... 192  
 Algebraic Proof ..... 193  
 Exponential Functions ..... 194  
 Trigonometric Graphs ..... 195  
 Transformation of Functions ..... 196  
 Equation of a Circle ..... 197  
 Regions ..... 198  
 Direct and Inverse Proportion ..... 199  
 Advanced Ratio Questions ..... 200  
 Similarity - Area and Volume ..... 201  
 Sine and Cosine Rules ..... 202  
 Area of a Triangle Using Sine ..... 203  
 And or Probability Questions ..... 204  
 Histograms ..... 205

**Fractional Indices**  
 $x^a = (\sqrt[a]{x})^a$

**Quadratic Formulae**  
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

**Surd**  
 $\sqrt{a} \times \sqrt{a} = a$   
 $\sqrt{a \times b} = \sqrt{a} \times \sqrt{b}$   
 $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

**Sine Rule**  
 $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

**Cosine Rule**  
 $a^2 = b^2 + c^2 - 2bc \cos A$

**Histograms**  
 frequency density =  $\frac{\text{frequency}}{\text{class width}}$

**MathsWatch** - Revision lessons just a click away ...

**MATHSWATCH COVERS EVERY TOPIC ON THE GCSE SYLLABUS**

Grades that will be examined:

Higher	1	2	3	4	5	6	7	8	9
Foundation	1	2	3	4	5				

The Maths Grade 1 to 9 syllabus is split into 5 areas and 246 videos.

**Number - 65 videos**  
**Algebra - 64 videos**  
**Ratio and Proportion - 23 videos**  
**Geometry and Measures - 66 videos**  
**Probability and Statistics - 28 videos**

How long will it take to revise?  
 The timings of our videos are:  
 0 to 5 mins ..... 107 videos  
 5 to 10 mins ..... 112 videos  
 10 to 15 mins ..... 22 videos  
 15 to 20 mins ..... 4 videos  
 20 to 25 mins ..... 1 video

# Science

## Mock Priorities: Paper 1

Highlighted are Y9 taught

HT means higher tier

T means triple only

Biology	Chemistry	Physics
<ul style="list-style-type: none"> <li>● B1</li> <li>● Eukaryotes and prokaryotes</li> <li>● Cell structure</li> <li>● Microscopes required practical (RP)</li> <li>● Differentiation</li> <li>● Stem cells</li> <li>● Cell Cycle</li> <li>● Diffusion, Osmosis, Active Transport</li> <li>● RP Osmosis</li> <li>● <i>Culturing microorganisms (T)</i></li> </ul>	<ul style="list-style-type: none"> <li>● C1</li> <li>● Atoms, elements, compounds, mixtures</li> <li>● Balancing equations</li> <li>● Development of the model of the atom</li> <li>● Atomic structure</li> <li>● Electronic structure</li> <li>● Periodic table development</li> <li>● Groups 0, 1 &amp; 7</li> <li>● <i>Transition metals (T)</i></li> </ul>	<ul style="list-style-type: none"> <li>● P1</li> <li>● Energy stores and systems</li> <li>● Kinetic energy, EPE, GPE</li> <li>● Specific heat capacity</li> <li>● RP Specific heat capacity</li> <li>● Power</li> <li>● Dissipation of energy</li> <li>● Efficiency</li> <li>● Energy resources</li> <li>● <i>RP 2: Insulation (T)</i></li> </ul>
<ul style="list-style-type: none"> <li>● B2</li> <li>● Organisation</li> <li>● Digestive System, Enzymes and Digestive Enzymes</li> <li>● RP Food Tests</li> <li>● RP Amylase</li> <li>● Heart, Blood and Blood vessels</li> <li>● Health: cancer, CHD.</li> <li>● Plants: tissues, organs, leaf structure,</li> <li>● Transpiration</li> </ul>	<ul style="list-style-type: none"> <li>● C2</li> <li>● Ionic Bonding</li> <li>● Ionic compounds</li> <li>● Covalent bonding</li> <li>● Giant covalent compounds including polymers, diamond and graphite</li> <li>● Metallic Bonding</li> <li>● States of matter and state symbols</li> <li>● Metals and alloys</li> <li>● <i>Nanoparticles (T)</i></li> </ul>	<ul style="list-style-type: none"> <li>● P2</li> <li>● Circuit symbols</li> <li>● Ohms Law</li> <li>● Charge</li> <li>● RP Resistance of a wire</li> <li>● RP IV – and graphs</li> <li>● Series &amp; Parallel</li> <li>● DC &amp; AC</li> <li>● Mains electricity and energy transfers</li> <li>● National grid</li> <li>● <i>Static electricity (T)</i></li> <li>● <i>Electric fields (T)</i></li> </ul>
<ul style="list-style-type: none"> <li>● B3</li> <li>● Bacterial, viral, fungal and protist diseases.</li> <li>● Human defence</li> <li>● Vaccination</li> <li>● Antibiotics and painkillers</li> <li>● Development of drugs</li> <li>● <i>Monoclonal antibodies (T)</i></li> <li>● <i>Plant diseases and defences (T)</i></li> </ul>	<ul style="list-style-type: none"> <li>● C3</li> <li>● Conservation of mass</li> <li>● Relative formula mass</li> <li>● Calculating moles (HT)</li> <li>● Avogadro's Constant (HT)</li> <li>● Limiting Reactants (HT)</li> <li>● Concentration of solutions</li> <li>● % yield (T)</li> <li>● Atom economy (T)</li> <li>● <i>Concentration in mol/dm<sup>3</sup> (HT) (T)</i></li> </ul>	<ul style="list-style-type: none"> <li>● P3</li> <li>● Density of materials</li> <li>● RP Density</li> <li>● Changes of state</li> <li>● Internal energy</li> <li>● Specific latent heat</li> <li>● Particle motion in gases</li> <li>● <i>Pressure in gases (T)</i></li> <li>● <i>Increasing pressure (T) (HT)</i></li> </ul>

B4 <ul style="list-style-type: none"> <li>• Photosynthesis: equation, factors affecting rate</li> <li>• RP Light Intensity on pondweed</li> <li>• Uses of glucose</li> <li>• Aerobic respiration</li> <li>• Anaerobic Respiration</li> <li>• Metabolism</li> </ul>		
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## History

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Conflict and Tension 1919 – 1939</b> Treaty of Versailles League of Nations Border disputes Invasions of the 1930s Hitler's aims Road to war			
<b>Germany 1890 – 1945</b> Germany under the Kaiser Germany after WW1 Spartacist Uprising Kapp Putsch Crisis year of 1923 Stresemann era Hitler's consolidation of Power Life under the Nazis.			

## Geography

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
UK Landscapes (coasts and rivers)			
Weather Hazards and Climate Change			

Global Development			
Coasts Fieldwork			
Human Fieldwork			
Changing Cities			
Ecosystems and Biodiversity			
Resource Management			
UK Challenges			

## French

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Self, family and friends			
Hobbies			
TV, cinema and music			
Technology and social media			
Festivals and celebrations			
Home and area			
Holidays			
Past, present, imperfect, future and conditional tenses			



# D&T

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Identifying requirements			
Existing products			
Implications of wider issues			
New & emerging technologies			
Design solutions			
User centred design			
Drawing methods			
Systems thinking			
Papers & boards			
Timbers			
Metals			
Polymers & Textiles			
Modern & smart materials			
Physical & working properties			
Material finishes			
Lifecycle analysis			
Stock forms & standard components			
Controlled movement			
Electronic systems			
Joining methods CAD / CAM			
Scales of production			

# Food & Nutrition

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Nutritional needs and health</b>			
Macronutrients (protein, fats and carbohydrates) / micronutrients (vitamins and minerals)			
Energy Needs			
Healthy Eating/ Government guidelines			
Nutritional Analysis			
<b>Food science</b>			
Cooking of food and heat transfer			
Functional and chemical properties of food (Fats, Protein and Carbohydrates)			
Raising Agents			
<b>Food safety</b>			
Food spoilage and contamination			
The signs of food spoilage			
Microorganisms in food production			
Bacterial contamination			
<b>Food choice</b>			
Factors which influence food choice			
Food choice related to religion, culture, ethical and moral beliefs and medical conditions			
Food labelling and marketing influences			

# Computer Science

Topic	1	2	3
<b><u>Paper 1</u></b>			
Topic 1: Computational thinking – understanding of what algorithms are, what they are used for and how they work; ability to follow, amend and write algorithms; ability to construct truth tables.			
Topic 2: Data – understanding of binary, data representation, data storage and compression.			
Topic 3: Computers – understanding of hardware and software components of computer systems and characteristics of programming languages.			
Topic 4: Networks – understanding of computer networks and network security.			
Topic 5: Issues and impact – awareness of emerging trends in computing technologies, and the impact of computing on individuals, society and the environment, including ethical, legal and ownership issues.			
<b><u>Paper 2 – Coding Paper on computer</u></b> This paper is your Python programming paper, practicing your coding will be the best thing you can do for revision.			
Topic 6: Problem solving with programming. The main focus of this paper is:			
understanding what algorithms are, what they are used for and how they work in relation to creating programs.			
understanding how to decompose and analyse problems.			
ability to read, write, refine and evaluate programs.			

## Health and Social Care

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Factors			
Major Life Events			
Lifestyle Indicators			

## Music

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Rhythm and Metre			
Harmony and Tonality			
Melody			
Texture			
Instrument			
Melodic Dictation			
WCT 1650 – 1910			
Popular Music			
Traditional Music			
WCT 1910 –			

## RE

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Christianity – Beliefs and Practices			
Judaism – Beliefs and Practices			
Themes – Religion and Life			
Themes- Relationships and families			
Themes- Religion Peace and Conflict			

## GCSE PE

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Component 01: Physical factors affecting Performance</b>			
1.1 Applied anatomy and physiology			
1.2 Physical training			
<b>Component 02: Socio-cultural issues and sports psychology</b>			
2.1 Socio-cultural influences			
2.2 Sports psychology			
2.3 Health, fitness and well-being.			

# **Business Studies**

<b>Topic</b>	<b>1</b>	<b>2</b>	<b>3</b>
Goods & Services			
The role of entrepreneurs			
Sole traders / Partnerships / Private and Public limited companies			
Franchise			
Market segmentation			
Market Research			
Revenue, Costs and Profit			
Break even			
Cashflow			
Sources of finance			
Aims and objectives			

## **General Revision Strategies**

- Practice Papers
- Planning Answers
- Timed practice
- Mind-maps
- Flashcards
- GCSE Pod
- Quizzes

## **Useful Websites**

- GCSE Pod
- BBC Bitesize
- YouTube (specific subject content)
- MathsWatch
- Internetgeography.net
- Revisionworld.com
- Coolgeography.co.uk
- Portal.focusonsound.com
- Businessed.co.uk
- Seneca
- Timelines TV
- Brainyquote.com
- Sentence builders
- Language-gym.com
- Tassomai