

# YEAR 11 MOCK EXAMINATIONS



## THE BRUNTS ACADEMY

SUPPORT AND REVISION

# Contents

Page 3	Mock timetable
Page 4	Mock FAQs
Page 5	Well-being during exams
Page 6	How families can support independent study
Page 7 - 12	Revision Strategies
Page 13 -14	English revision list
Page 15-16	Maths revision list
Page 17-18	Science revision list
Page 19	French revision list
Page 20	Geography revision list
Page 21	History revision list
Page 22	Sociology revision list
Page 23	Psychology revision list
Page 24	Food preparation and nutrition revision list
Page 25	Media studies revision list
Page 26	Digital IT revision list
Page 27	Product Design and Graphics revision list
Page 28	Construction revision list
Page 29	Computer Science revision list

# Mock Timetable

Knowing when each exam is due to take place will help you to get organised and plan your revision. This will also guide you in knowing what equipment you must bring with you each day to ensure that you can successfully complete your mock exams.

YEAR 11 MOCK EXAM TIMETABLE

	Exam 1	Break	Lunch	Exam 2
Monday 13 <sup>th</sup> November	9:00am – 10:45am	10.45am-11.05am	11.50am-12.45pm	1.15pm-2.45pm
	English Language 1 hour 45 mins			Maths P1 1 hour 30 mins
Tuesday 14 <sup>th</sup> November	9:00am – 10:45am	10.45am-11.05am	11.50am-12.45pm	1.15pm-2.35pm
	Biology Double Science 1 hour 15 mins Triple Science 1 hour 45 mins			History 1 hour 20 mins
Wednesday 15 <sup>th</sup> November	9:00am – 10:45am	10.45am-11.05am	11.50am-12.45pm	1.15pm-2.45pm
	English Literature 1 hour 45 mins			Maths P2 1 hour 30 mins
Thursday 16 <sup>th</sup> November	9:00am – 10:45am	10.45am-11.05am	11.50am-12.45pm	1.00-2.15/2.45pm
	Chemistry Double Science 1 hour 15 mins Triple Science 1 hour 45 mins			Physics Double Science 1 hour 15 mins Triple Science 1 hour 45 mins
Friday 17 <sup>th</sup> November	9:00am – 11:00am	11.00am-11.15am	11.50am-12.45pm	1.15pm-2.45pm
	Sociology 1 hour 45 mins Food Prep and Nutrition 2 hours	Late break for exam students		Geography 1 hour 30 mins

	Exam 1	Break	Lunch	Exam 2
Monday 20 <sup>th</sup> November	9:00am – 10:45am	10.45-11.05am	11.50am-12.45pm	1.15pm-2.45pm
	Psychology 1 hour 45 mins Media 1 hour 30 mins Digital Information Technology 1 hour 30 mins			Maths P3 1 hour 30 mins
Tuesday 21 <sup>st</sup> November	9:00am – 11:00am	11.00am-11.15am	11.50am-12.45pm	1.15pm-2.45pm
	Design and Technology 2 hours	Late break just for exam students		Computer Science 1 hour 30 mins Dance 1 hour 30 mins
Wednesday 22 <sup>nd</sup> November	9:00am – 10:15am	10.45am-11.05am	11.50am-12.45pm	1.15pm-2.45pm
	French Writing Higher 1 hour 15 mins Foundation 1 hour			Construction 1 hour 30mins
Thursday 23 <sup>rd</sup> November	9:00am – 10:30am	10.45am-11.05am	Lunch at normal time (1.05pm-1.45pm)	11:30am – 12:30pm
				French Reading/Listening Higher 1 hour Foundation 45 minutes

# Mock FAQs

## Q. What do 'exam conditions' mean?

Exam conditions mean that:

- You must remain silent at all times - on entry to the exam room, during the exam, and while your paper is collected at the end of the exam
- You must not talk, turn around in your seat or signal to any other student
- You may raise your hand if you require assistance and the invigilator will come over and speak quietly with you
- You are expected to behave in the same way for mock exams as is expected in your formal exams in the summer. This is your chance to rehearse.

## Q. Why are exam conditions important for my mocks?

Exam conditions during your mocks will allow you to rehearse for the real thing. Take advantage of this by sticking strictly to the conditions described above. Another vital reason for sticking to these conditions is to ensure that everyone in Year 11 gets a fair chance to give each exam their very best shot without distraction or interruptions.

## Q. What equipment do I need?

Black pen (biro not gel pens), pencil, ruler, eraser in a clear pencil case or clear plastic (sandwich) bag. You may bring in a calculator only for the exams where you need to use one. You cannot take the lid of your calculator into the exam venue. Water bottles must be see-through/clear without a label.

## Q. What isn't allowed?

Mobile phones and watches (of any kind) are not allowed. They must be switched off and placed in your bag. Bags will be left in a secure space. You may choose not to bring your watch on the day of an exam. It is malpractice to have a watch or mobile phone in an exam hall and if this happened in a real exam, your grade in that subject would be a U and possibly the same for all your other subjects.

## Q. What if I need to go to the toilet during an exam?

Go to the toilet during break and lunchtime or before the line up to enter the exam hall. You will not be allowed out to the toilet, unless you have a known medical need/card. Leaving the room during an exam disturbs your own focus and concentration and will disturb the entire room and disrupt the focus of others. Make sure you go before you enter the exam hall and then you do not need to worry.

# Well-being during exams

Looking after your wellbeing is a key part of preparing well for exams. In school, staff are here to help. There is a lot of helpful advice out there to help you to eat well, sleep well, work hard and stay relaxed. Visit the links on this page (see right) for more information.

## Dealing with exam stress and anxiety

Everyone feels stressed during exams and often this stress encourages us to do that extra bit of revision, listen a little more to the information in a lesson and work a bit harder. However, too much pressure and anxiety can affect your ability to concentrate on your work and you may find that you are overly worrying about how you will do in your exam. Try to reduce anxiety because it uses up working memory. This is where mock exams can help, as they give you the opportunity to try test papers under exam conditions and experience what being in an exam venue is like. You can also lean on your family/friends, talk to your teachers about what might help, organise a revision timetable and establish good habits in terms of sleeping, eating and keeping active.

## Get plenty of sleep during exams

Did you know there's evidence that students who sleep for at least 7 hours a night do 10% better on average than those who get less sleep?

Good sleep will improve thinking and concentration so try and get between 8 and 10 hours' sleep a night.

Allow half an hour or so to wind down between studying, watching TV or using a computer and going to bed to help get a good night's sleep.

Make sure that your bedroom is dark and cool as these are the best conditions for sleep and if possible ensure that where you sleep is separate from where you revise (if this isn't possible, make sure you cover up your revision at the end of the day).

Finally, cramming all night before an exam is usually a bad idea - sleep is much better for you than a few hours of panicky last-minute study, so set yourself a time for bed.

## Make sure you eat and drink!

Did you know research shows that students who eat breakfast perform better in exams? A balanced diet is vital for your health, and can help you to feel well during exam periods.

Too many high-fat, high-sugar and high caffeine foods and drinks (like cola, sweets, chocolate, crisps, burger & chips) can make you hyperactive, irritable and moody.

At night, try to avoid eating three hours before sleep.

The best way to help concentration is to keep hydrated, as even mild dehydration can lead to tiredness, headaches, reduced alertness and concentration.

## Put away your mobile phone when studying

We know that smartphones are brilliant 'distraction devices'. We also know that there is research which shows that using mobile phones (as a break from studying) can be mentally draining, reducing your performance (they pull your attention in lots of different directions). So, when you're not using a revision app, keep your head 'recharged' and ready to learn by putting away your mobile phone when preparing for an exam.

# How families can help with independent study

## Try to:

- Give plenty of praise and encouragement. It has been suggested that writing your child a letter describing what their hard-work and effort means to you can be very powerful
- Create the right environment for study. Ideally, this would be quiet, well-lit and free from interruptions. They also need plenty of paper, cue-cards, pens, highlighters etc.
- Make sure they have a balanced diet, including plenty of water
- Support your child with the preparation of a revision timetable/schedule. An example Revision Planner template has been provided in this guide
- Be a revision buddy! Help your child to track their progress through their revision timetable/schedule. What tasks have been completed? What is there still to do?
- Be prepared to listen. Students can often become more emotional during this period and need someone to listen to their anxieties.
- Encourage exercise. Exercise can help boost energy levels, clear the mind and relieve stress. It does not matter what it is – walking, cycling, swimming, football and dancing are all effective.

## Try to avoid:

- Focusing on grades. Instead, praise for the effort put into preparation rather than results obtained. How hard they try is the part of this process over which students have most control
- Constantly mentioning the exams and piling the pressure on (known to teenagers as nagging!)
- Making comparisons with siblings, cousins, friends etc.
- Worrying if some of their revision approaches seem unfamiliar or different to when you were at school
- Expecting them to study all of the time. Taking breaks and some time to relax will have an overall positive effect on their ability to revise effectively.

# Revision Strategies

To be effective, revision must be active, it must cause you to 'think hard'. Passively reading through notes or flicking through a revision guide is a very poor form of revision. Active revision leads to more chance of committing information and learning to your long-term memory.

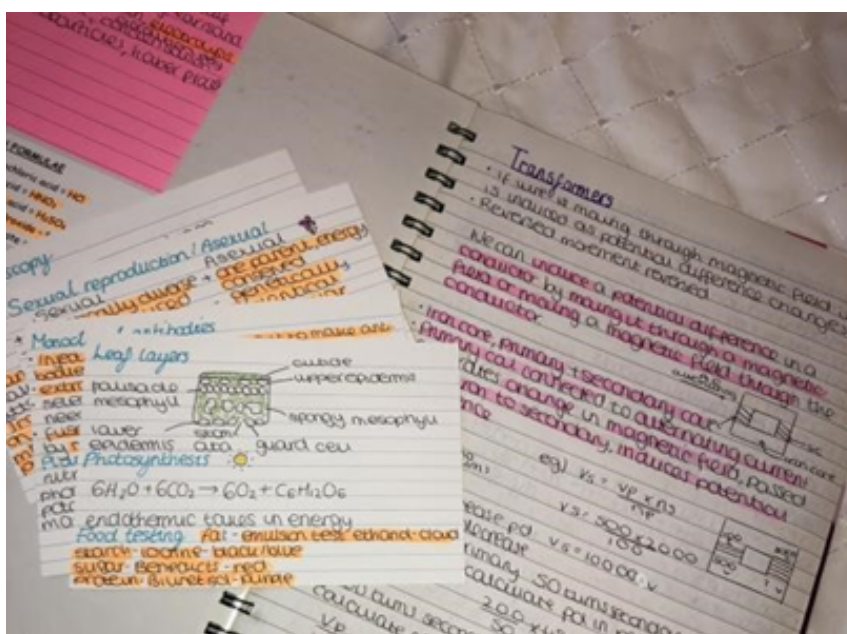
Students are most successful when they use a revision timetable (see the revision planner at the end of this booklet) because it allows you to plan your time more effectively and ensure that you are splitting your time across your subjects, as well as making sure that the right subject is tackled at the right time (particularly in relation to the mock exam timetable).

In addition:

- You should aim for 25-35 minute bursts of revision activity, with 10 minute breaks in between (going for a walk can be the most effective type of break);
- Identify and tackle your knowledge gaps - don't just revise the topic you like or are better at – it is tempting to do so, but you need to prioritise the topics and areas you know you would struggle with in an exam.

The following pages describe some of the ways in which you might improve the effectiveness of your revision. They summarise some of the methods that the Learning Scientists recommend. The Learning Scientists are a group of scientific researchers in cognitive science who have focused on how students best learn and revise. Their website explains why these approaches are so successful and has downloadable resources for more information and guidance.

<https://www.learningscientists.org/downloadable-materials>



# Revision Strategies

## 1. Using flashcards

The ultimate portable revision strategy! There are different ways to create and use flashcards to target your knowledge gaps. You could simply record a keyword, definition or idea on each card. You could use both sides of the card: question on one side, answer on the other.

Lots of students find that they are able to recall information more effectively when they use colour and pictures on their flashcards. Self-testing with flashcards has been shown to be a very effective way to prepare for exams. Using the Leitner system (below) has been shown to be a brilliant way to super-charge your revision/learning.

**Leitner System:** Get hold of three small boxes, envelopes or three different coloured elastic bands.

For the purpose of this example, we will use three study boxes labelled as follows:

Box 1: every day

Box 2: every other day

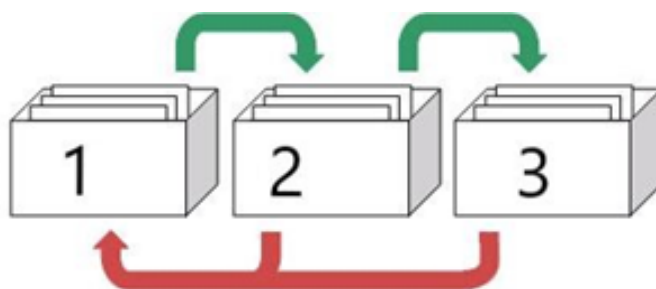
Box 3: once a week

Every flashcard will start in Box 1. As you answer a flashcard correctly, move the card into Box 2. If you incorrectly answer a flashcard, place the card back in Box 1.

Follow this method for each flashcard in Box 1. At the end of this round, you will notice that some concepts remain in Box 1—that means that these concepts are more difficult for you and require frequent studying. The cards that have graduated to Box 2, on the other hand, are concepts with which you are more familiar, so you do not have to study them as frequently. Each time you get a card correct, you move it to the next box. Each time you get a card wrong, you move it back to the previous box. Once you have finished studying for the day, you will see which concepts are ones that you need to study more frequently, and which concepts may only require you to study them once a week.

Follow the same method on each study day until all of your cards have been moved to the last box. If it turns out that you have forgotten some concepts in Box 3 by the time that study day rolls around, move the cards to the previous box. Depending on how you have labeled your boxes and created your study calendar, you may only study one box of flashcards on certain days and multiple boxes on others.

Video explanation/demonstration at:  
How to study flashcards using the Leitner system  
<https://www.youtube.com/watch?v=C20EvKtdJwQ>





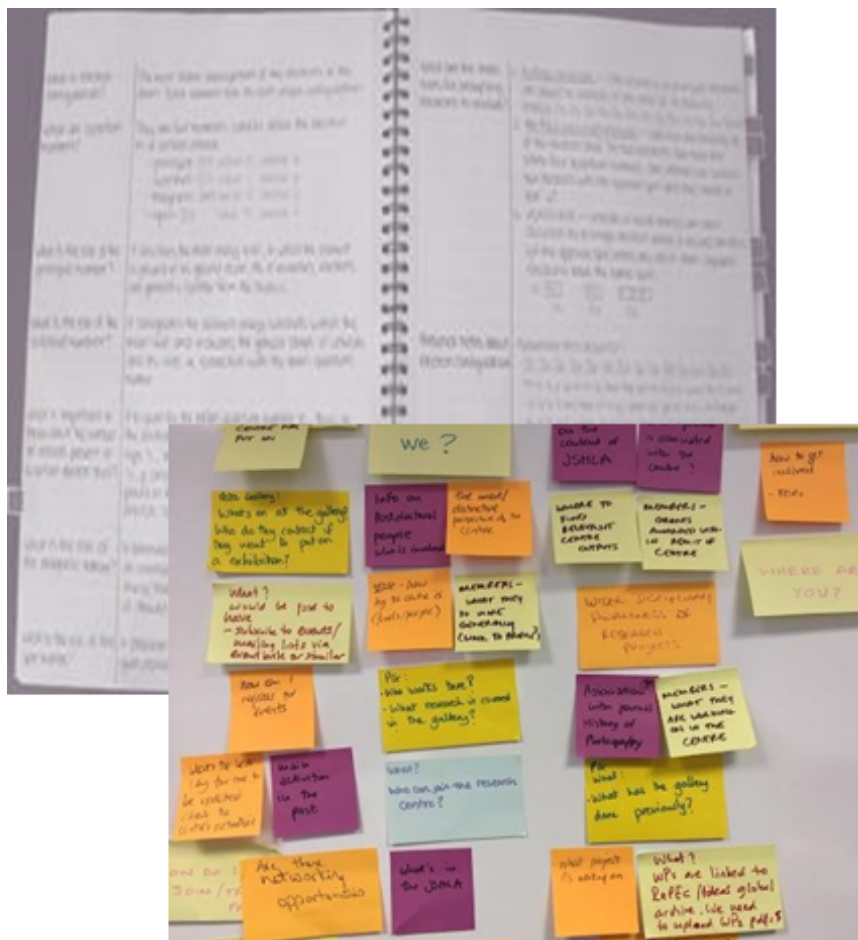
# Revision Strategies

## 2. Making summary notes

Once you have identified your gaps, try transforming the notes you already have from your revision guide, exercise book, websites/online and other resources. Don't fall into the trap of copying out lots of text – turn the information into short paragraphs, bullet points, lists or pictures.

Transforming notes in this way will help you to memorise the information by getting you to think harder about it!

Often students find it useful to summarise their notes onto post-it notes and make a display of them in a place they visit regularly. The post-it notes can also be used to test your memory at a later date.



# Revision Strategies

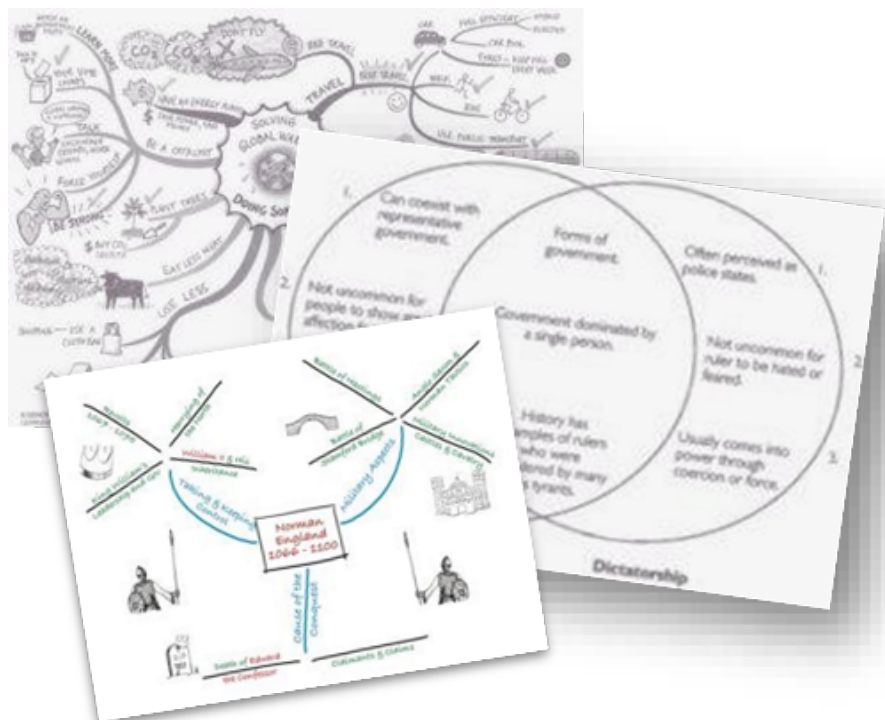
## 3. Graphic Organisers (Mind maps, Spider diagrams, Venn diagrams etc.)

Most students find that graphic organisers are a memorable way to organise ideas on a page.

Different organisers support different types of revision e.g. memorising a sequence (Chain), finding out how much you remember about a particular topic (Spider), thinking through how two ideas compare with one another (Venn) or organising pros & cons (T-chart).

There are lots of useful graphic organiser templates (which can be downloaded and printed) at:

<https://freeology.com/graphicorgs/page/4/>



# Revision Strategies

## 4. Memorising! Read-recite-review

A significant part of exam success is memory work - what can you recall? There are lots of memory techniques you can try. One approach which works for lots of students is:

1. Read (your notes on a particular topic).
2. Recite as much as you can from memory (you could record this on your phone) then re-read your notes.
3. Review: get someone to test you on your notes or answer questions on the topic (use questions from your revision guide or past-paper).

Testing straight-away increases your ability to remember later.

# Revision Strategies

## 5. Question practice (past papers & others)

Answering test questions (and marking/correcting your answers, if possible) is another effective way to prepare for exams.

This is because it helps you to figure out where your gaps are, giving you the opportunity to do something about them.

Most revision guides have tests, quizzes and exam-style questions (often with model answers alongside).

It can also be just as effective to carefully plan answers to longer/high mark questions in subjects where you write more extended answers (for example, English Literature, history, Drama etc.).

Planning is as effective a revision task as actually completing practise questions in full.

Write your name here	
Surname	Other names
<b>Pearson Edexcel</b>	Centre Number
<b>Level 1 / Level 2</b>	Candidate Number
<b>GCSE (9–1)</b>	
<b>Mathematics</b>	
<b>Paper 1 (Non-Calculator)</b>	
<b>Higher Tier</b>	
Thursday 25 May 2017 – Morning	Paper Reference
<b>Time: 1 hour 30 minutes</b>	<b>1MA1/1H</b>
<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.	Total Marks

Language is Paper 1 - Section A - 4 analysis questions. 1 Search and find Question, 1 Language question, 1 Structure Question, 1 Evaluation Question. Section B - 1 Creative Writing piece - Narrative or Description

Literature is Paper 1 - 1 Romeo and Juliet Essay and 1 Christmas Carol Essay (50minutes spent on each.)

## Revision techniques for English Literature



### Quotal Recall!

Flashcards with the key trigger words from each quote to help your brain remember the quote.

'crossed' – Star-crossed lovers (Romeo and Juliet.)

'Shattered' – Shattered visage lies. – (Ozymandias.)

### Practice Questions.

Practice papers will be available from your teachers and directly from the AQA website. Complete a practice question in the time frame you will be allowed in your exam and give it to your teacher to mark for you. Then you can use the guidance given by them to support your next practice!

### Thematic revision

Revise the play/novel/collection of poems as a whole. Track a theme/character/concept through the piece. This will ensure when you come to essay writing you can track the whole novel/story/theme through the poem.

Spider diagrams, lists, tables any of the above layout would work for this task.



Macbeth example – Theme of guilt.

## Revision techniques for English Language

### Quotal Recall!

Flashcards with examples for each language/structure technique to help you remember the name of the technique.

‘The wave reached out to snatch the sand’ –  
**Personification.**  
‘bellowing, screaming and howling.’ –  
**Trinomial.**

### Practice Questions.

Practice papers will be available from your teachers and directly from the AQA website.

Complete a practice question in the time frame you will be allowed in your exam and give it to your teacher to mark for you. Then you can use the guidance given by them to support your next practice!

### Planning for Q5

- Always plan question 5, it'll ensure you response is clear and organised. This is exactly what your examiner wants.
- Plan your response thoroughly in up to 10minutes and practice this skill with different questions so you can do it easily in your exam.

### Section B – Paper 1

you have 45 minutes to plan, write and check your response.



Plan, write and check!

- 5 minutes planning
- 35minutes writing
- 5minutes checking!

- Remember – **your examiner wants, DESCRIPTION**, ambitious vocabulary and to see you using linguistic techniques, adjectives, verbs, adverbs, metaphors, personification, similes etc.

• **Part 1 – Drop** into the setting. What can you see? Hear? Smell? Most importantly how does all this make you feel? What is the atmosphere like? Create it for me. Include all your sense!

• **Part 2 – Shift** Move to a specific point in time or place. Where are you? What can you see? How do you feel? how does it compare to how you feel now?

• **Part 3 – Zoom in** on a specific person/area/object, focus on being descriptive and bringing it to life/creating a character for them/it.

• **Part 4 – Zoom back out** to the rest of the scene and what is happening, how are you ending it all? Circular structure? Cliff-hanger?

# Maths

In Maths, the GCSE specification is not assessed in a particular order. This means that content can be assessed in any of the 3 exams.

Students can use the resource, MathsWatch, to support their revision. Staff set revision packs for their individual groups on MathsWatch. Students can also use the topic lists on the next page to identify their areas for development and watch clips on that topic. Similarly, students completed RAG sheets for each assessment they did last year, which they should have in their old books at home. Students can watch the clips for the topics they have identified as Red/Amber to work through on MathsWatch.

Students can log into MathsWatch at: <https://vle.mathswatch.co.uk/vle/>

Student logins follow the same idea as this example:

Example: Joe Bloggs

Username: JBloggs@brunts

Password: Circle

Subject Content

**Grade 1**

Place Value ..... 1

Ordering Integers ..... 2

Ordering Decimals ..... 2

Ordering Scales ..... 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

**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 =  $2\pi r$



**Addition/Subtraction**

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

$(-)$  becomes  $+$

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

$(-)$  becomes  $-$

**Multiplication/Division**

$(+) \times (+)$  becomes  $+$  eg.

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

$(+) \times (-)$  becomes  $-$

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

**Grade 2**

Adding Integers and Decimals ..... 17

Subtracting Integers and Decimals ..... 18

Ordering Integers ..... 19

Ordering Decimals ..... 19

Ordering Scales ..... 20

Reading Scales ..... 21

Simple Mathematical Notation ..... 22

Interpreting Real-Life Tables ..... 23

Introduction to Algebraic Conventions ..... 24

Coordinates ..... 25

Simple Geometric Definitions ..... 26

Polygons ..... 27

Symmetries ..... 28

Tessellations and Congruent Shapes ..... 29

Names of Angles ..... 30

The Probability Scale ..... 31

Tally Charts and Bar Charts ..... 32

Pictograms ..... 33

Simplifying - Addition and Subtraction ..... 34

Simplifying - Multiplication ..... 35

Simplifying - Division ..... 36

Function Machines ..... 37

Generating a Sequence - Term to Term ..... 38

Introduction to Ratio ..... 39

Using Ratio for Recipe Questions ..... 40

Value for Money ..... 41

Introduction to Proportion ..... 42

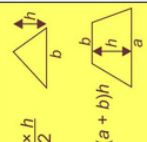
Prime Numbers

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



**Grade 3**

Multiplying Decimals ..... 66

Dividing Decimals ..... 67

Four Rules of Negatives ..... 68

Multiplying Negatives ..... 69

Listing Strategies ..... 70

Comparing Fractions ..... 71

Adding and Subtracting Fractions ..... 72

Finding a Fraction of an Amount ..... 73

Multiplying Fractions ..... 74

Dividing Fractions ..... 75

BODMAS/BIDMAS ..... 76

Reciprocals ..... 77

Calculator Questions ..... 78

Product of Primes ..... 79

Highest Common Factor (HCF) ..... 80

Lowest Common Multiple (LCM) ..... 81

Squares, Cubes and Roots ..... 82

Working with Indices ..... 83

Standard Form ..... 84

Decimals and Fractions ..... 85

Fractions, Percentages, Decimals ..... 86

Percentage of an Amount (Calc.) ..... 87

Change to a Percentage (Calc.) ..... 88

Change to a Percentage (Non-Calc.) ..... 89

Rounding to Significant Figures ..... 90

Estimating Answers ..... 91

Using Place Value ..... 92

Expanding Brackets ..... 93

Simple Factorisation ..... 94

Substitution ..... 95

Straight Line Graphs ..... 96

The Gradient of a Line ..... 97

Drawing Quadratic Graphs ..... 98

Sketching Functions ..... 99

Solving Equations Using Flowcharts ..... 100

Subject of a Formula Using Flowcharts ..... 101

Generate a Sequence from nth Term ..... 102

Finding the nth Term ..... 103

Special Sequences ..... 104

Exchanging Money ..... 105

Sharing Using Ratio ..... 106

Ratios, Fractions and Graphs ..... 107

Increase/Decrease by a Percentage ..... 108

Percentage Change ..... 109

Reverse Percentage Problems ..... 110

Simple Interest ..... 111

Metric Conversions ..... 112

Problems on Coordinate Axes ..... 113

Surface Area of a Prism ..... 114

Volume of a Cuboid ..... 115

Circle Definitions ..... 116

Area of a Circle ..... 117

Circumference of a Circle ..... 118

Volume of a Prism ..... 119

Angles and Parallel Lines ..... 120

Angles in a Triangle ..... 121

Properties of Special Triangles ..... 122

Angle Sum of Polygons ..... 123

Bearings ..... 124

Experimental Probabilities ..... 125

Possibility Spaces ..... 126

Venn Diagrams ..... 127

Representing Data ..... 128

Scatter Diagrams ..... 129

Averages From a Table ..... 130

**Grade 4**

Index Notation ..... 131

Introduction to Bounds ..... 132

Error Intervals ..... 133

Mathematical Reasoning ..... 134

Factorising and Solving Quadratics ..... 135

The Difference of Two Squares ..... 136

Finding the Equation of a Straight Line ..... 137

Roots and Turning Points of Quadratics ..... 138

Cubic and Reciprocal Graphs ..... 139

Simultaneous Equations Algebraically ..... 140

Geometric Progressions ..... 141

Compound Interest and Depreciation ..... 142

Ratio Questions ..... 143

Congruent Triangles ..... 144

Similar Shapes ..... 145

Sectors of a Circle ..... 146

Trigonometry ..... 147

Spheres ..... 148

Pyramids ..... 149

Cones ..... 150

Frustums ..... 151

Exact Trigonometric Values ..... 152

Introduction to Vectors ..... 153

Harder Tree Diagrams ..... 154

Stratified Sampling ..... 155

Pythagoras

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

**The Laws of Indices**

$x^a \times x^b = x^{a+b}$

$x^a \div x^b = x^{a-b}$

$(x^a)^b = x^{ab}$

$x^{-a} = \frac{1}{x^a}$

**Trigonometry**

**Grade 6**

Recurring Decimals to Fractions ..... 177

Product of Three Binomials ..... 178

Iteration - Trial and Improvement ..... 179

Iterative Processes ..... 180

Enlargement - Negative Scale Factor ..... 181

Combinations of Transformations ..... 182

Circle Theorems ..... 183

Proof of Circle Theorems ..... 184

Probability Using Venn Diagrams ..... 185

Cumulative Frequency ..... 186

Boxplots ..... 187

**Grade 7**

Fractional Indices

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

Quadratic Formula

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

Sine Rule

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

Cosine Rule

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

Regions ..... 188

Direct and Inverse Proportion ..... 189

Advanced Ratio Questions ..... 190

Similarity - Area and Volume ..... 191

Sine and Cosine Rules ..... 192

Area of a Triangle Using Sine ..... 193

And and Or Probability Questions ..... 194

Histograms ..... 195

Upper and Lower Bounds ..... 206

Surd ..... 207

Perpendicular Lines ..... 208

Completing the Square ..... 209

Algebraic Fractions ..... 210

Simultaneous Equns with a Quadratic ..... 211

Solving Quadratic Inequalities ..... 212

Finding the nth Term of a Quadratic ..... 213

Inverse Functions ..... 214

Composite Functions ..... 215

Interpreting Graphs ..... 216

Pythagoras in 3D ..... 217

Trigonometry in 3D ..... 218

Vectors ..... 219

Surd

$\sqrt{a} \times \sqrt{a} = a$

$\sqrt{a \times b} = \sqrt{a} \times \sqrt{b}$

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

Histograms

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

**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

## **Biology topics**

### Triple students

Topics: Cell biology; Organisation; Infection and response; and Bioenergetics.

### Trilogy students- H & F

Topics: Cell Biology; Organisation; Infection and response; and Bioenergetics.

### Revision websites

GCSE Biology (Single Science) - BBC Bitesize

GCSE Combined Science - AQA Trilogy - BBC Bitesize

Century AI

Free sciencelessons – YouTube

GCSEPod

Seneca learning

## **Chemistry topics**

### Triple students

Topics: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry, Chemical changes; and Energy changes.

### Trilogy students

Topics: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

### Revision websites

GCSE Chemistry (Single Science) - BBC Bitesize

GCSE Combined Science - AQA Trilogy - BBC Bitesize

Century AI

Free sciencelessons – You Tube

GCSEPod

Seneca learning

# Science

## **Physics topics**

### Triple students

Topics: Energy; Electricity; Particle model of matter; and Atomic structure.

### Trilogy students- H & F

Topics: Energy; Electricity; Particle model of matter; and Atomic structure.

### Revision websites:

GCSE Physics (Single Science) - BBC Bitesize

GCSE Combined Science - AQA Trilogy - BBC Bitesize

Century AI

Free sciencelessons – You Tube

GCSEPod

Seneca learning

## Topic lists

- Holidays
- School subjects/rules
- Describing home town
- Freetime activities
- Weather phrases
- Global issues
- Technology

# Geography

The mock examination will be based on a fieldwork component. The following resource will support preparation for this:

[AQA GCSE Geography 2022 | Warmup for Paper 3 | Unfamiliar Fieldwork - Bing video](#)

For geography, as well as the mock exam paper 3, students will also be sitting an in class assessment:

This will cover:

- Physical landscapes in UK
- Urban issues and challenges
- Climate change
- Living world

Students will be given Knowledge Organisers to aid their revision.

Other useful sources of info, especially for the in class assessment:

Time for Geography | Home – a selection of videos can be found here.

Geography | GCSE Live Revision Sessions - YouTube

# History

## Weimar and Nazi Germany Key Topic 1:

- The political challenges faced by the Weimar Government (The Treaty of Versailles, the Weimar Constitution, uprisings from the left and right)
- The economic challenges faced by the Weimar Government (reparations, hyperinflation, the occupation of the Ruhr)
- The reasons for the economic recovery (the Rentenmark, the Dawes Plan, US loans, the Young Plan)
- The reasons for the political recovery (Kellogg-Briand Pact, entry to the League of Nations, the Locarno Treaty)
- Weimar cultural change between 1924-1929

## Weimar and Nazi Germany Key Topic 2:

- The early growth of the Nazis (25 Point Plan, Munich Putsch)
- Reorganisation of the Nazis (leadership, Bamberg Conference, restructuring, new aims)
- The impact of the Depression on Germany (economic impacts, political impacts, impact on the Nazis)
- Hitler's path to the Chancellorship

## Exam question types:

- Source inference questions (4 marks)
- 'Explain why' questions (12 marks)
- 'How useful' source questions (8 marks)
- Differences between interpretations questions (4 marks)
- Interpretations essay question (16 marks)

## Useful websites:

- BBC GCSE BitSize - Weimar and Nazi Germany
- Spartacus Educational - Weimar Republic History Revision / Nazi Germany History Revision
- Youtube - 'A long, long time ago...' channel

## Topics

Family (from Year 10 work)

Crime and Deviance (most recent topic).

## Topics

Memory

Perception

Development

Research methods

# Food Preparation and Nutrition

## Topic list

- Food, Nutrition & Health
- Food Science
- Food Safety
- Food Choice
- Food Provenance
- Food Preparation Skills

## Useful Websites

GCSE Home Economics: Food and Nutrition (CCEA) - BBC Bitesize

<https://app.senecalearning.com/courses?>

[price=Free&Subject=Food+Preparation+%26+Nutrition](https://app.senecalearning.com/courses?price=Free&Subject=Food+Preparation+%26+Nutrition)



# Media Studies

## Topic list

Media language

Representation

Media Industry

Audience

Theoretical frameworks

The following set products:

<b>Component 1 Exploring the Media</b>						
<b>Theoretical Framework</b>	<b>Newspapers (in-depth study)</b>	<b>Film</b>	<b>Video games</b>	<b>Radio</b>	<b>Magazines</b>	<b>Advertising and marketing</b>
<b>Media Language</b>	Section A				Section A	Section A
<b>Representation</b>	Section A				Section A	Section A
<b>Media Industries</b>	Section B	Section B	Section B	Section B		
<b>Audiences</b>	Section B		Section B	Section B		

# Digital Information Technology

## Topic list

- User Access Restrictions (LOB)
- Security Breaches (LOB)
- Working collaboratively (Collaborative Technologies LOA)
- Cloud Computing (cloud LOA)
- Digital systems & weaknesses (Finding Weaknesses LOB)
- Methods of security protection (LOB)
- User Interfaces
- Software installation
- Cloud VS Traditional Systems (Cloud and Traditional LOA)
- Ad hoc networks (Communication Technologies LOA)
- Sharing data
- Information flow diagrams
- External threats (External threats LOB)
- Cloud storage (Cloud Storage LOA)
- Copyright and trademarks (Intellectual Property LOC)
- Suitability of either purchase or upgrade a system

## Useful websites

BTEC DIT - Component 3 | 2K plays | Quizizz

Search Quizlet › btec dit | Quizlet

Btec it - Teaching resources (wordwall.net)

Mr Weir's Computer Science - YouTube

# Product Design and Graphics

## Topic list

- Manufactured boards
- Selection of materials
- Commercial manufacturing processes (all for all materials)
- Stock forms
- Production methods (one off, batch, mass)
- Prototypes development
- Product Analysis
- Fair Trade

## **Useful websites:**

ENGINEERING - DESIGN AND TECHNOLOGY ([technologystudent.com](http://technologystudent.com))

GCSE Design and Technology - AQA - BBC Bitesize

## Topic list

- 1.1 The sector
- 1.2 The built environment life cycle
- 1.3 Types of building and structure
- 1.4 Technologies and materials
- 1.5 Building structures and forms
- 1.6 Sustainable construction methods
- 1.7 Trades, employment and careers
- 1.8 Health and safety

# Computer Science

## List of topics in paper 1:

- Binary/Hexadecimal representation
- Image representation
- Networks
- Storage
- Memory
- Operating Systems
- ELCE

## List of topics in paper 2:

- High/Low Level Languages
- Pseudocode
- Tracing Algorithms
- Finding and Correcting Errors
- Sorting
- Logic
- Testing
- Writing Algorithms
- SQL
- Files

## Useful websites:

- <https://www.youtube.com/@craigndave> [Exam Board is OCR]
- <https://senecalearning.com/en-GB/> [Exam Board is OCR, also includes Python]
- <https://www.isaaccomputerscience.org/topics/gcse?examBoard=all&stage=all#ocr>
- <https://www.csnewbs.com/ocr-gcse>
- <https://www.bbc.co.uk/bitesize/examspecs/zmtchbk>
- <https://www.computerscience.gcse.guru/>
- Revision notes have been provided on most of your theory based OneNote Pages