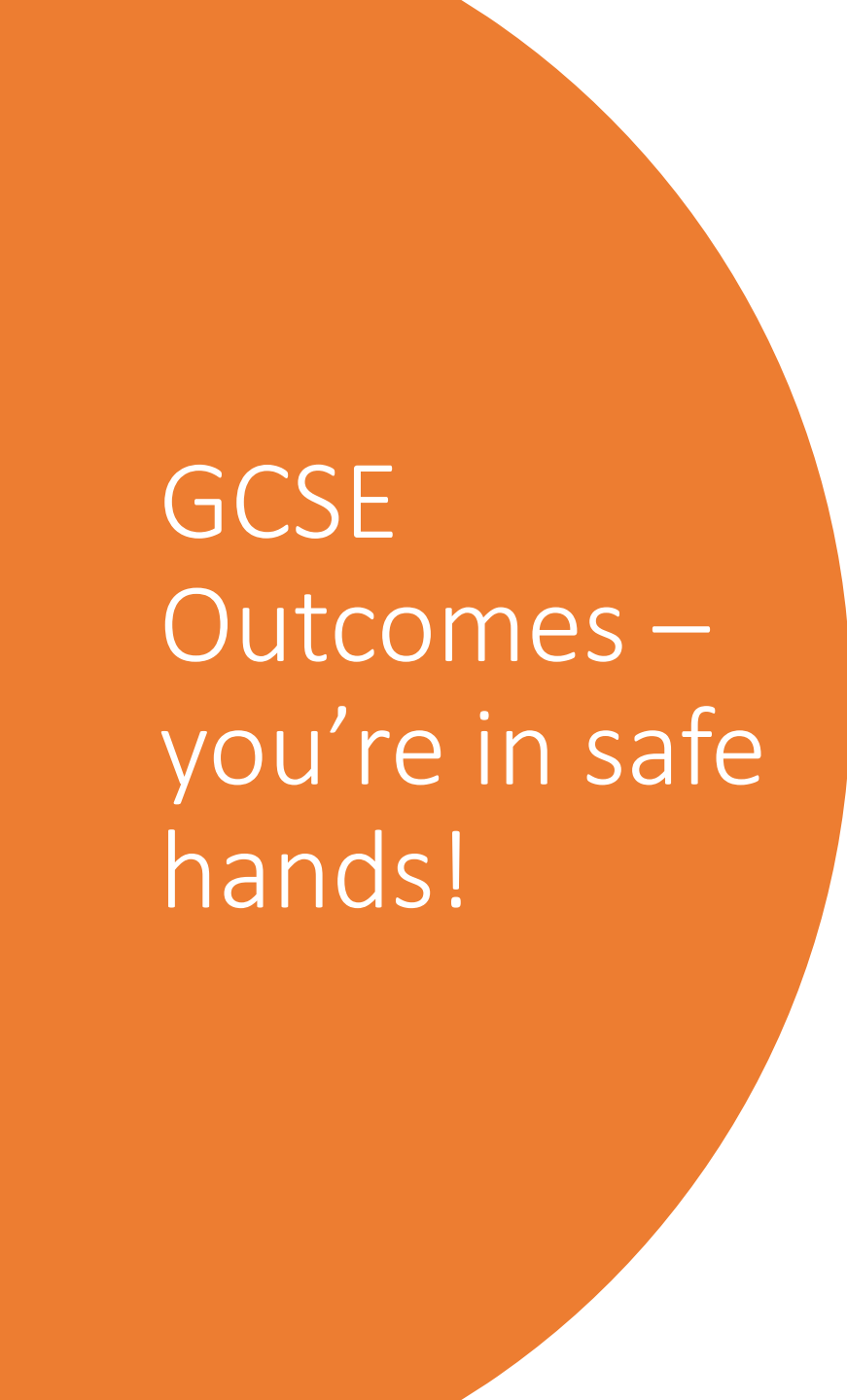


# Welcome

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Year 10 Information Evening

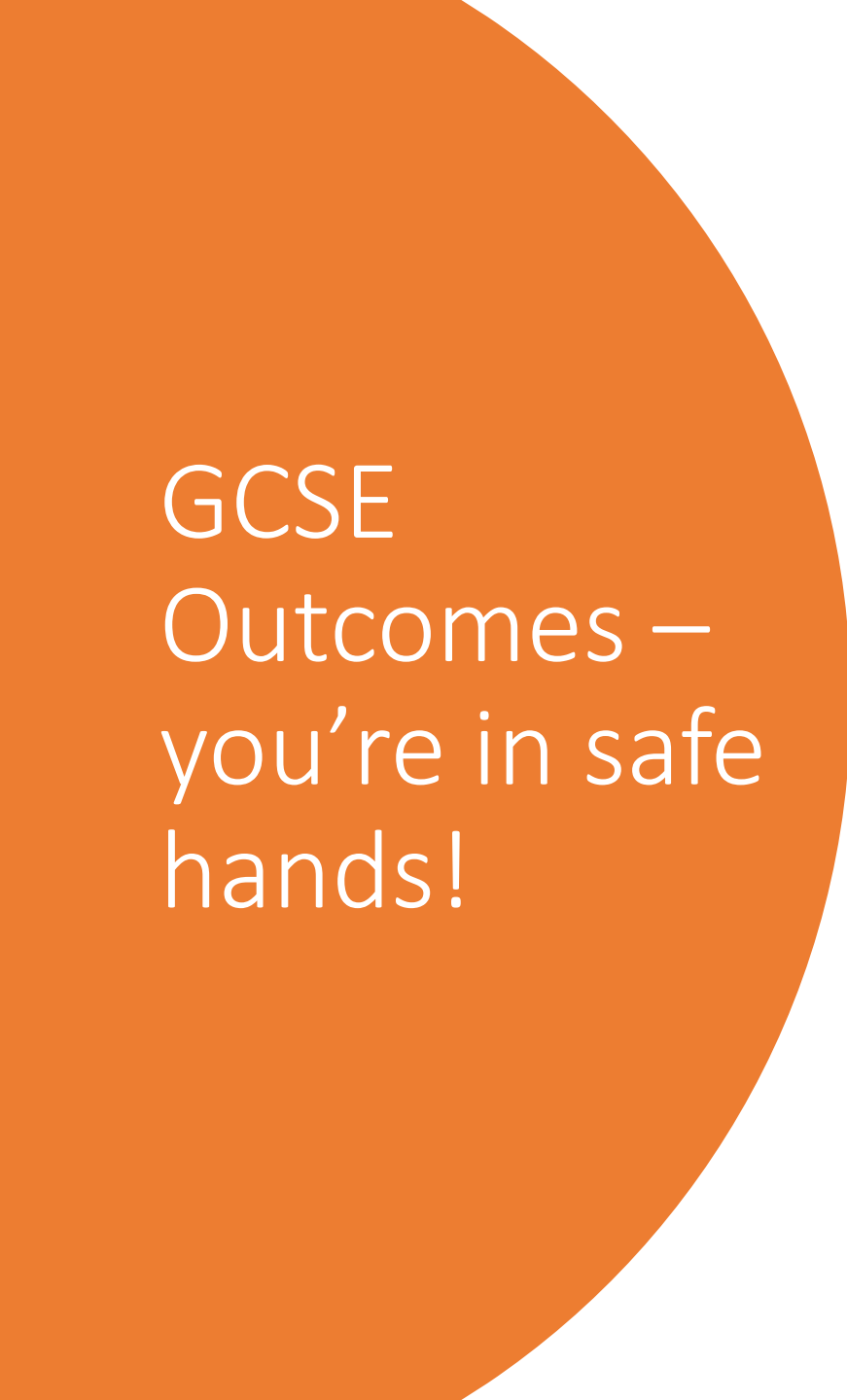
A large orange circle graphic on the left side of the slide.

# GCSE Outcomes – you're in safe hands!

- Consistently the best GCSE attainment for all non-selective schools in the city
- Positive progress for 'all pupils' year on year

AMVC students get results!



A large orange circle graphic on the left side of the slide.

# GCSE Outcomes – you're in safe hands!

- Consistently the best GCSE attainment for all non-selective schools in the city
- Positive progress for 'all pupils' year on year

AMVC students get results!

...will you work with us to do the same in 2025?



# How Come?

‘It is the power of the incredibly positive relationships we enjoy that have contributed to students doing so well and make our school such a special place’

‘Great school, working hard to support its pupils – full of hard-working young people striving for success’

‘Massive shout out to the teaching staff who have again defied all the odds in the most adverse of times to support these students to get such fabulous results!! ....as a result of the hard work that the staff who have believed in her and pushed her accordingly have put in...thank you.

Will see you in September where we expect to see you work your magic again!! 😊😊

# How Come?

## CORE PRINCIPLES






**Commitment:** Not motivation, that wanes. Commitment - that's permanent!

**Ownership:** It's your plan, they're your exams, they're your results. It's your future

**Responsibility:** Be accountable for the implementation of your plans. Ultimately, you will be the person who receives the grades anyway!

**Excellence:** Set high and achievable standards and expectations

# Come to school....every day

	Pupils	Average GCSE Grade	Average GCSE Value Added	English (best) Grade	English Value Added	Maths Grade	Maths Value Added	
<b>Above 95%</b>	<b>97</b>	<b>5.6</b>	 <b>+0.6</b>	<b>5.7</b>	<b>+0.3</b>	<b>5.7</b>	 <b>+0.7</b>	<b>98%</b>
<b>90.1-95%</b>	<b>48</b>	<b>5.3</b>	<b>+0.3</b>	<b>5.6</b>	<b>+0.3</b>	<b>5.2</b>	<b>+0.2</b>	<b>93%</b>
<b>80.1-90%</b>	<b>33</b>	<b>4.5</b>	<b>-0.1</b>	<b>4.9</b>	<b>-0.1</b>	<b>4.2</b>	<b>-0.2</b>	<b>86%</b>
<b>50.1-80%</b>	<b>17</b>	<b>3.7</b>	<b>-0.3</b>	<b>4.4</b>	<b>-0.1</b>	<b>3.4</b>	<b>-0.4</b>	<b>70%</b>
<b>0-50%</b>	<b>8</b>	<b>2.4</b>	 <b>-2.2</b>	<b>2.8</b>	 <b>-2.5</b>	<b>2.3</b>	 <b>-2.2</b>	<b>31%</b>

# Welcome



Ms Lewis

# Welcome to Key Stage Four - FAQs

---

- Two Year Courses
- Modular Examinations (Vocational) or Terminal Examinations (GCSE approach)
- GCSE Grading – 1-9
- X/Y half linked to Science Course Options
- Tiers/set numbers not relevant in many subjects
- Many subjects maintain staffing over the two-year period for continuity and learning.



# Useful Dates and Assessments:

- Assessment Checks – three Monitoring Points (8<sup>th</sup> Dec, 22<sup>nd</sup> March, 18<sup>th</sup> July)
- End of Year 10 Exams Window – 17<sup>th</sup> – 28<sup>th</sup> June 2024
- Countdown – approx. 25 school weeks!
- Year 11 Mock Windows – November 2024 and Feb 2025
- In class assessments frequently to measure knowledge and recall every half term/topic covered.
- Teacher formative assessment – recall quizzes, interleaving topics, essays etc.

# What we offer:

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- Lots of information and support for Revising in each subject area.
- Subjects use Teams to share resources and useful material.
- Students' Books and Folders are a vital resource.
- Wellbeing and Mindfulness support in school and through tutor time.
- Our Year 10 Subject Information Guide – given out today.
- Summer mocks – provide feedback and help us plan intervention.
- A coordinated series of published Revision Sessions in Year 11.
- Year 11 – motivational assemblies, the results experience, Study Skills Focus Day.
- More parental advice and support on it's way!



# Subject Presentations Tonight

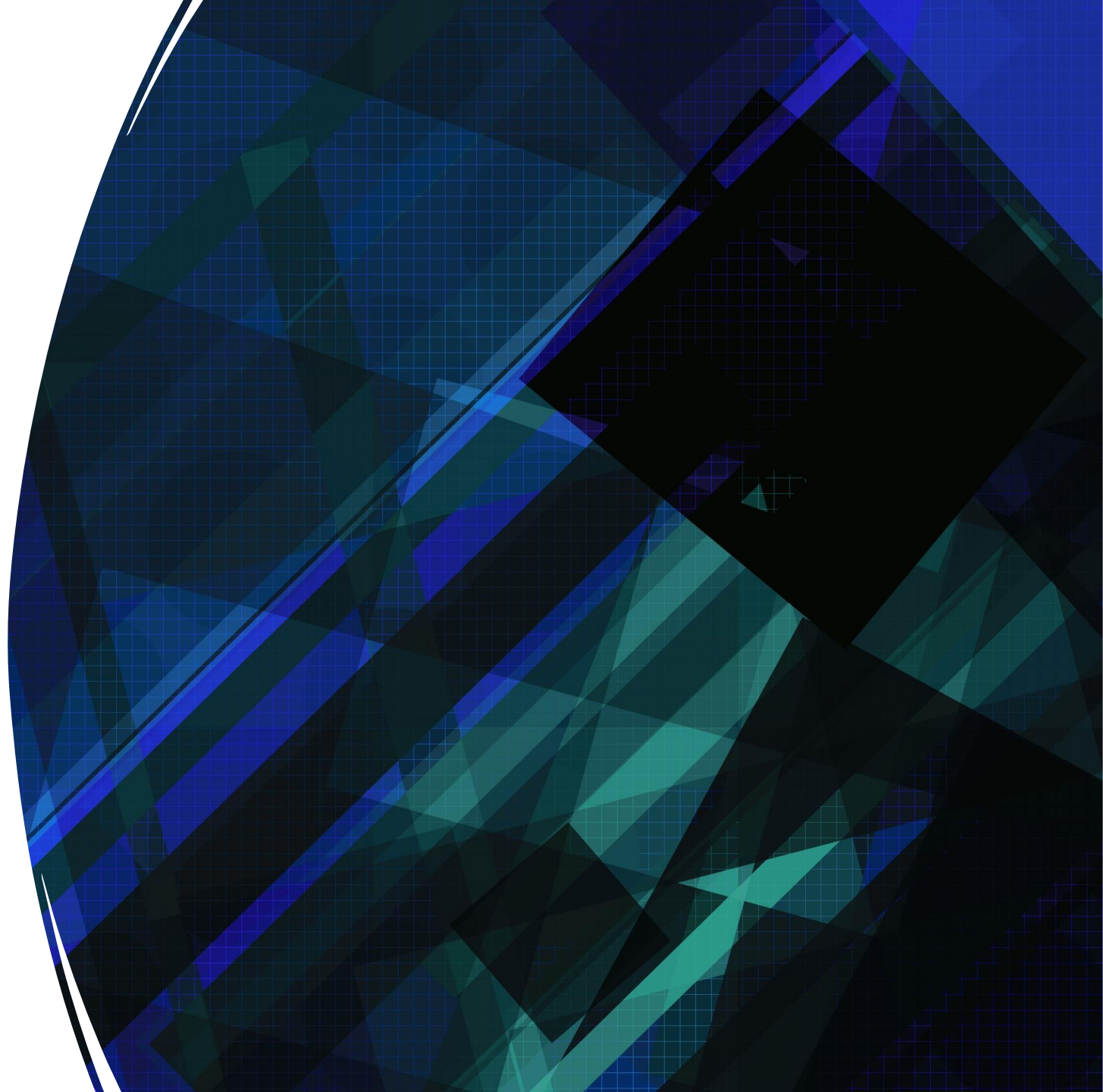
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- Vocational Lead – Mr Zaidi
- English – Miss Jeffs
- Maths – Miss Marshall
- Science – Ms Debbage
- Revision Strategies and Advice – Ms Lewis
- Head of Year – Mrs Warrington – available at the end also.

# Vocational Subjects

---

Mr Zaidi



# VOCATIONAL COURSES

These are now highly regarded courses - on par with GCSEs

This means that expected standards of work are also higher





It is important for students and parents to be clear about the rules regarding:

- **Feedback** – on many courses, there is one opportunity mid-project for teachers to give very general feedback about how a project is going. There is a **teaching phase** and then an **exam phase** where students have to work independently – THIS **CANNOT** BE DONE AT HOME.
- **Use of AI** – basically, it's a NO
- **Referencing** – ALL work submitted must be the student's own work unless it is quoted and referenced, or re-written and sourced.







# VOCATIONAL COURSES

## – PUSHING FOR SUCCESS

- Targets are challenging but some students with a flair for the subject can and will exceed targets
  - About 20% of Year 11 students are currently resubmitting their work from Year 10 to push for a higher grade so Year 10s should try to get it right first time!
  - The next big **DEADLINE** is mid-December for Media and Sport. Organisation and time management are essential. All vocational courses will be doing examined work (30% of the final grade) before Easter
  - There are lunchtime sessions every day with vocational teachers to support students to catch up and meet deadlines
- 
- 
- 
- 



# MOVING FORWARDS

- Get it right first time. There is a chance to resubmit work to aim for higher grades but this is a distraction
  - KS4 vocational results are consistently excellent and Post 16 Vocational courses are also enjoying great success
  - They are highly regarded by employers and universities
  - Students do not need to have studied a subject at Key Stage 4 to be able to opt to take it as a post-16 course
  - It is normal for students to pick a mix of A Levels and vocational courses.
- 
- 
- 
- 





# English

Miss Jeffs





# AQA: GCSE English Language

*'Students of all abilities will develop the skills they need to read, understand and analyse a wide range of different texts covering the 19th, 20th and 21st century time periods as well as develop the skills to write clearly, coherently and accurately using a range of vocabulary and sentence structures.'*

(AQA, specification overview)

# English Language

- GCSE English Language will result in a separate GCSE grade to that of Literature
- All students will sit two exams: each exam is worth 50%
- Each exam is divided into two sections: section A assesses reading skills (25%) and section B assesses writing skills (25%)
- All students have to complete a compulsory speaking assessment that is graded as pass/merit/distinction by the teacher but DOES NOT count towards the GCSE grades

# GCSE English Language

## **Paper 1: 1hr 45 mins**

### **Reading:**

- One literature fiction text with four questions (40 marks)

### **Writing:**

- Writing a description or a story (40 marks)

## **Paper 2: 1hr 45mins**

### **Reading:**

- Two non-fiction texts with four questions (40 marks)

### **Writing:**

- Writing to express a viewpoint (40 marks)



# AQA: GCSE English Literature

*'The specification takes a skills-based approach to the study of English literature that is consistent across the genres and gives students a grounding in a wide variety of literature that will stay with them for life'.*

(AQA, specification overview)



# English Literature

- GCSE English Literature will result in a separate GCSE grade to that of Language
- All students will sit two exams: Paper 1 is worth 40% and Paper 2 is worth 60%

# GCSE English Literature

<b>Paper 1: 1hr 45 mins (64 marks)</b>	<b>Paper 2: 2 hrs 15 mins (96 marks)</b>
<b>Section A: Shakespeare</b> <i>Macbeth or Romeo and Juliet</i> (34 marks)  <b>Section B: 19<sup>th</sup> century novel</b> <i>A Christmas Carol or Jekyll and Hyde</i> (30 marks)	<b>Section A: Modern drama</b> <i>An Inspector Calls</i> (34 marks)  <b>Section B: poetry collection</b> Power and conflict poetry (30 marks)  <b>Section C: two unseen poems</b> (32 marks)

**Section A: Shakespeare**  
*Macbeth or Romeo and Juliet*  
(34 marks)

**Section B: 19<sup>th</sup> century novel**  
*A Christmas Carol or Jekyll and Hyde*  
(30 marks)


**Section A: Modern drama**  
*An Inspector Calls*  
(34 marks)

**Section B: poetry collection**  
Power and conflict poetry  
(30 marks)

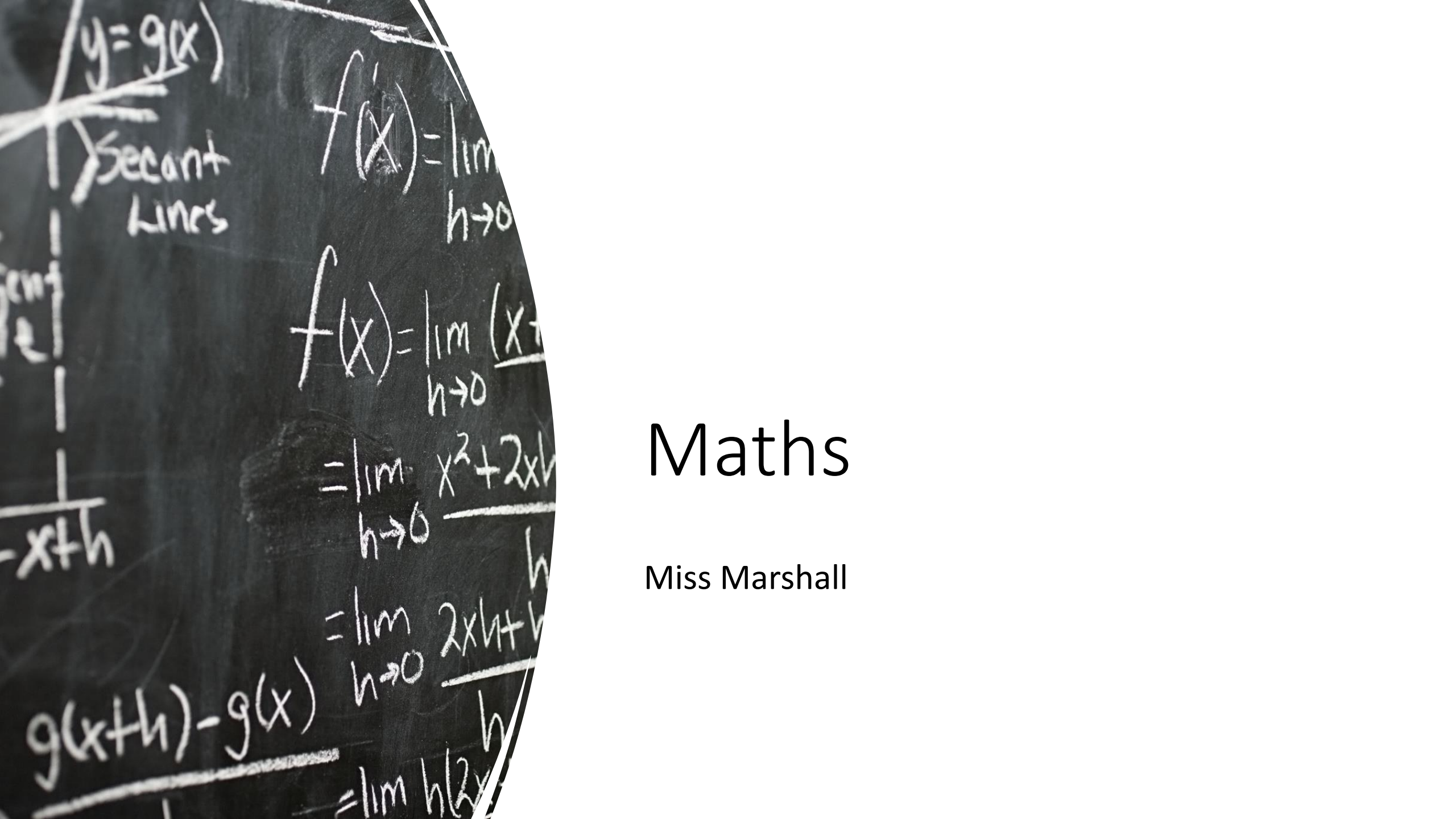
**Section C: two unseen poems**  
(32 marks)

A large orange circle on the left side of the slide, partially cut off by the edge.

# Enhancing the curriculum

- Massolit
  - Digital Theatre +
  - English and Media Centre magazine
  - The Day (library)
  - Seneca
  - Parents are emailed with a 'How to support your Child' guide (Sway)
- 
- A series of four yellow curved dashes in the bottom right corner, forming a partial arc.





The chalkboard on the left contains the following handwritten text:

- $y = g(x)$
- Secant Lines
- $f'(x) = \lim_{h \rightarrow 0}$
- $f(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$
- $= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h}$
- $= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$
- $= \lim_{h \rightarrow 0} (2x + h)$
- $= 2x$

Other visible fragments include  $x+h$  and  $g(x+h) - g(x)$ .

# Maths

Miss Marshall



# EXAM INFORMATION

## **Exam Board – Edexcel (Pearson)**

**Higher Tier** (Grades 4 - 9)

**Foundation Tier** (Grades 1 - 5)

### **Paper 1 – Non-Calculator**

80 marks

90 mins

### **Paper 2 – Calculator**

80 marks

90 mins

### **Paper 3 – Calculator**

80 marks

90 mins

## Exam Specification

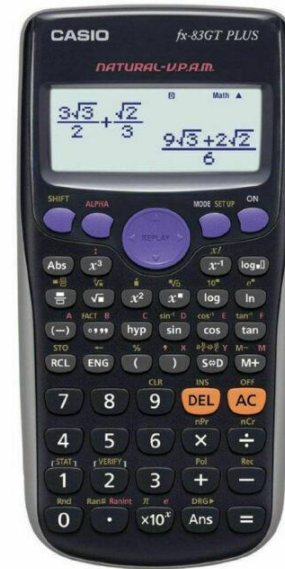
The course offered is Edexcel GCSE Mathematics (9-1)

The exam content will include questions from the following headings:

1. Number
2. Ratio, proportion and rates of change
3. Algebra
4. Geometry and measures
5. Statistics
6. Probability

# REQUIRED EQUIPMENT

- Pen
- Pencil
- Ruler
- Geometry Equipment  
(compasses and protractor)
- Scientific calculator
  - Casio FX83-GT range
  - These are needed for  
both lessons and  
assessments



# **INTERNAL ASSESSMENTS**

**We complete an internal assessment :**

- **Prior to December holiday**
- **Prior to February half term**
- **After the Easter Break**
- **Prior to the end of the year 10 ( end of year exam)**
  
- **Homework**

# SUPPORT AVAILABLE

- Maths Watch VLE ( Videos and practice questions)  
<https://vle.mathswatch.co.uk>
- Oak Academy ( Videos and interactive lessons)  
<https://www.thenational.academy/teachers/key-stages/ks4/subjects>
- BBC bitesize ( revision and minitests)  
<https://www.bbc.co.uk/bitesize/examspecs/z9p3mnb>
- Revision Guides -letters will be out shortly.
- Teacher feedback/help.

# USEFUL WEBSITES



## Sign In

Username

Password

[Forgot Password?](#)

[View Demo](#)

[Sign In](#)

Click an option below to sign in



Wonde



Google



Microsoft

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Developed By Duo Web Design

After a successful log in, you are always presented with your “My Work” section.

"Mathematical Notations" is due in 1 day. [click here to complete](#)

Please check your assignments below, you have 1 unread message

### Assigned Work

**This Year's Work** | All Work | Showing All Types ▾

Homework Average: 97.3% | Test Average:

Title	Type	Assigned	Due	Marks	%
Reading Scales	HW	29/09/2017	06/10/2017		
Mathematical Notations	TEST	25/09/2017	05/10/2017		
Ordering Numbers	HW	22/09/2017	29/09/2017	24/26	92%
Place Value	HW	15/09/2017	22/09/2017	11/11	100%
Pythagoras	HW	26/07/2017	09/09/2017	34/34	100%

Here you can see the list of tasks assigned to you by your teacher along with their due date.


You can see the scores of assignments you have already completed.

Your teacher is able to leave feedback to help with some of the questions you found challenging. You can even respond and request more help if needed.

Finally, you will also be reminded of any tasks still due by colour-coded banners.

# USEFUL WEBSITES

Video



## MathsWatch

Please choose a video in the menu opposite.

Find a Clip

**Qualification** GCSE ▼

**Tier** All ▼

**Grade** All ▼

**Topic** All ▼

**Search**

Choose Clip (245)

Clip	Title
1	Place Value
2	Ordering Integers
3	Ordering Decimals
4	Reading Scales
5	Simple Mathematical Notation
6a	Real-Life Tables - Time
6b	Real-Life Tables - Timetables and Distance Ta
7	Introduction to Algebraic Conventions



# USEFUL WEBSITES

Clip 32 Rounding to Decimal places

One Minute Maths Interactive Questions Worksheet

Clip 32

**ROUNDING TO DECIMAL PLACES**

04:33

Find a Clip

Qualification GCSE ▼

Tier All ▼

Grade All ▼

Topic All ▼

Search 32

Choose Clip (2)

Clip	Title
32	Rounding to Decimal places
132	Introduction to Bounds

# USEFUL WEBSITES

Clip 32 Rounding to Decimal places - Question 1 [← Return to Videos](#)

Standard Questions 1 2 3 Harder Questions 1 2 3

Question Progress

Round the following numbers to 1 decimal place.

a) 45.8642

b) 856.321

c) 2.93

d) 94.97

a)  +

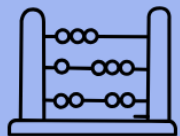
b)  +

c)  +

d)  +

[Submit Answer](#)

# USEFUL WEBSITES



Key stage 4

## Maths

Curriculum download (.zip)



Select tier of learning

Core

Foundation

Higher

# USEFUL WEBSITES

**Core** Foundation Higher

1

Year 10

**Directed Numbers**

4 lessons >

2

Year 10

**Rules of indices (numbers)**

4 lessons >

3

Year 10

**Standard Form (Writing and converting)**

4 lessons >

4

Year 10

**Standard Form 4 Operations**

4 lessons >

Filter by thread

→ All in suggested order

Algebra (A)

Handling Data/Probability (D)

Number (N)

Shape and Space (S)

?

# USEFUL WEBSITES

1

## Adding directed numbers

In this lesson, we will recap adding directed (+ -) numbers using visual representations such as double sided counters to aid understanding.



1 Slide deck



1 Worksheet



1 Quiz



1 Video

2

## Subtract directed numbers

In this lesson, we will recap subtracting directed (+ -) numbers using visual representations such as double sided counters to aid understanding.



1 Slide deck



1 Worksheet



2 Quizzes



1 Video

3

## Multiply and divide directed numbers

In this lesson, we will recap multiplying and dividing directed numbers using visual representations such as double sided counters to aid understanding.



1 Slide deck



1 Worksheet



2 Quizzes



1 Video

# One last thing

Remember the best way to develop mathematical understanding is to do maths.

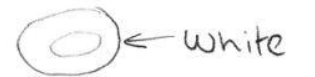




Describe the purpose of cytoplasm.  
In *Ghostbusters II* it was used  
to make the Statue of Liberty  
come to life. I've never seen  
it used since.

What's the difference between red blood cells and white blood cells?

Some are red,  
Others are white.



© Richard Benson

# Science

Mrs Debbage

# Exam Content – Paper 1s

## (Year 10 Mocks & Year 11 Xmas mocks)

### **BIOLOGY**

B1: Cell Biology (Yr9)

B2: Organisation (Yr10)

B3: Infection and Response (Yr10)

B4: Bioenergetics (Yr9)

### **PHYSICS**

P1: Energy (Yr9)

P2: Electricity (Yr10)

P3: Particle Model (Yr9)

P4: Atomic Structure (Yr10)

### **CHEMISTRY**

C1: Atomic Structure and the Periodic Table (Yr9)

C2: Structure and Bonding (Yr9)

C3: Quantitative Chemistry (Yr10)

C4: Chemical Changes (Yr10)

C5: Energy Changes (Yr9/10)



# Exam Content – Paper 2s (Yr11 2nd Mocks)

## **BIOLOGY**

B5: Homeostasis and response

B6: Inheritance, variation and evolution

B7: Ecology

## **PHYSICS**

P5: Forces

P6: Waves

P7: Magnetism and Electromagnetism

P8: Space (Single only)

## **CHEMISTRY**

C6: Rates of Reaction

C7: Organic Chemistry

C8: Chemical Analysis

C9: Chemistry of the Atmosphere

C10: Using Resources



# Exam Content

- Papers contain a mixture of multiple choice, short answer and long answer (max 6 marks) questions.
- No QWC marks.
- Maths skills:
  - Biology 10%
  - Chemistry 20%
  - Physics 30%
- Knowledge of the required practical's and practical skills
  - All three 25% each.

# Grading & Tiers of Entry

- Chosen to ensure your child can achieve the highest grade possible.
- Foundation = Grades 1-5/11-55
  - Single science ~60% for a grade 4
  - Combined science ~55% for a grade 44
- Higher = Grades 3-9/43-99
  - Single science ~30% for a grade 4
  - Combined science ~25% for a grade 44
- November mocks will be used to determine tier of entry for most students.
  - Students require ~30% to take higher.
  - Final decision for borderline students after 2nd mock window in March.



But where do they/you begin?



# Assess current knowledge

- Using Personal Learning Checklist, go through each topic and RAG their current understanding of each of the statements in the checklist.

# Personalised Learning Checklist P2 Electricity

Topic	Student Checklist	R	A	G
4.2.1 Current, potential difference and resistance	Draw and interpret circuit diagrams, including all common circuit symbols			
	Define electric current as the rate of flow of electrical charge around a closed circuit			
	Calculate charge and current by recalling and applying the formula: $[Q = It]$			
	Explain that current is caused by a source of potential difference and it has the same value at any point in a single closed loop of a circuit			
	Describe and apply the idea that the greater the resistance of a component, the smaller the current for a given potential difference (p.d.) across the component			
	Calculate current, potential difference or resistance by recalling and applying the equation: $[V = IR]$			
	<b>Required practical 3:</b> Use circuit diagrams to set up and check circuits to investigate the factors affecting the resistance of electrical circuits			
	Define an ohmic conductor			
	Explain the resistance of components such as lamps, diodes, thermistors and LDRs and sketch/interpret IV graphs of their characteristic electrical behaviour			
	Explain how to measure the resistance of a component by drawing an appropriate circuit diagram using correct circuit symbols			
4.2.2 Series and parallel circuits	<b>Required practical 4:</b> use circuit diagrams to construct appropriate circuits to investigate the I-V characteristics of a variety of circuit elements			
	Show by calculation and explanation that components in series have the same current passing through them			
	Show by calculation and explanation that components connected in parallel have the same the potential difference across each of them			
	Calculate the total resistance of two components in series as the sum of the resistance of each component using the equation: $[R_{total} = R_1 + R_2]$			
	Explain qualitatively why adding resistors in series increases the total resistance whilst adding resistors in parallel decreases the total resistance			
4.2.3 Domestic circuits and safety	Solve problems for circuits which include resistors in series using the concept of equivalent resistance			
	Explain the difference between direct and alternating voltage and current, stating what UK mains is			
	Identify and describe the function of each wire in a three-core cable connected to the mains			
	State that the potential difference between the live wire and earth (0 V) is about 230 V and that both neutral wires and our bodies are at, or close to, earth potential (0 V)			
	Explain that a live wire may be dangerous even when a switch in the mains circuit is open by			



# Assess current knowledge

- Use the RAG checklist to identify a topic of concern.
- Look down the list and focus on the areas highlighted in red first, followed by those in amber.



## Personalised Learning Checklist P2 Electricity

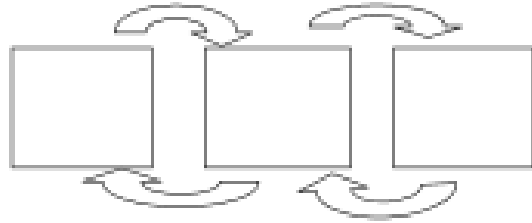
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	Explain that current is caused by a source of potential difference and it has the same value at any point in a single closed loop of a circuit			
	Describe and apply the idea that the greater the resistance of a component, the smaller the current for a given potential difference (p.d.) across the component			
	Calculate current, potential difference or resistance by recalling and applying the equation: $[V = IR]$			
	<i>Required practical 3: Use circuit diagrams to set up and check circuits to investigate the factors affecting the resistance of electrical circuits</i>			
	Define an ohmic conductor			
	Explain the resistance of components such as lamps, diodes, thermistors and LDRs and sketch/interpret IV graphs of their characteristic electrical behaviour			
	Explain how to measure the resistance of a component by drawing an appropriate circuit diagram using correct circuit symbols			
	<i>Required practical 4: use circuit diagrams to construct appropriate circuits to investigate the I-V characteristics of a variety of circuit elements</i>			
4.2.2 Series and parallel circuits	Show by calculation and explanation that components in series have the same current passing through them			
	Show by calculation and explanation that components connected in parallel have the same the potential difference across each of them			
	Calculate the total resistance of two components in series as the sum of the resistance of each component using the equation: $[R_{total} = R_1 + R_2]$			
	Explain qualitatively why adding resistors in series increases the total resistance whilst adding resistors in parallel decreases the total resistance			
	Solve problems for circuits which include resistors in series using the concept of equivalent resistance			
Domestic and safety	Explain the difference between direct and alternating voltage and current, stating what UK mains is			
	Identify and describe the function of each wire in a three-core cable connected to the mains			
	State that the potential difference between the live wire and earth (0 V) is about 230 V and that both neutral wires and our bodies are at, or close to, earth potential (0 V)			

An alternative checklist can be found in the front of the Collins revision guide.

Contents			
	Revise	Practice	Review
The pH Scale and Acids	p. 116	p. 112	p. 118
The pH Scale			
Neutralisation of Acids			
Indicating Acids from Insoluble Bases			
Strong and Weak Acids			
Electrolysis	p. 118	p. 110	p. 151
Electrolysis			
Oxidation and Reduction			
Reduction of Metals			
Electrodes of Aqueous Solutions			
Chemistry Paper 1: Energy Changes			
Exothermic and Endothermic Reactions	p. 120	p. 118	p. 152
Energy Profiles			
Energy Level Diagrams			
Measuring Energy Changes	p. 122	p. 114	p. 152
Measuring Energy Changes			
Energy Change of Reactions			
Energy Calculations			
Chemistry Paper 2: The Rate and Extent of Chemical Change			
Rate of Reaction	p. 124	p. 115	p. 153
Calculating the Rate of Reaction			
Collision Theory			
Plotting Reaction Rate			
Reversible Reactions	p. 126	p. 115	p. 153
Equilibrium			
Reversible Reactions			
Equilibrium Systems			
Changing Reaction Conditions			
Chemistry Paper 3: Organic Chemistry			
Alkanes	p. 136	p. 114	p. 174
Crude Oil and Hydrocarbons			
Fractional Distillation			
Alkanes			
Forming Fuels			
Cracking Hydrocarbons	p. 138	p. 114	p. 174
Cracking Hydrocarbons			
Reforming Fuels			
Chemistry Paper 4: Chemical Analysis			
Chemical Analysis	p. 140	p. 116	p. 175
Qualitative Analysis			
Quantitative Analysis			
Chromatography			
Gas Tests			

Contents			
	Revise	Practice	Review
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The Earth's Atmosphere	p. 142	p. 115	p. 175
The Earth's Atmosphere			
The Atmosphere Today			
History of Oxygen Levels			
Decrease of Carbon Dioxide Levels			
Greenhouse Gases	p. 144	p. 116	p. 175
Greenhouse Gases			
The Impact of Human Activities			
Global Climate Change			
Carbon Footprints			
Chemistry Paper 3: Using Resources			
Earth's Resources	p. 146	p. 117	p. 177
Sustainable Development			
Drinking Water			
Waste Water Treatment			
Alternative Methods of Extracting Metals			
Using Resources	p. 148	p. 117	p. 177
Life Cycle Assessment (LCA)			
Reducing the Use of Resources			
Physics			
Physics Paper 1: Forces			
Forces – An Introduction	p. 158	p. 118	p. 198
Scalar and Vector Quantities			
Contact and Non-Contact Forces			
Gravity			
Resultant Forces			
Vector Diagrams			
Forces in Action	p. 160	p. 118	p. 198
Work Done and Energy Transfer			
Forces and Motion	p. 162	p. 119	p. 199
Distance and Displacement			
Speed			
Velocity			
Newton's First Law			
Distance-Time Graphs			
Forces and Acceleration	p. 164	p. 119	p. 199
Acceleration			
Velocity-Time Graphs			
Newton's Second Law			

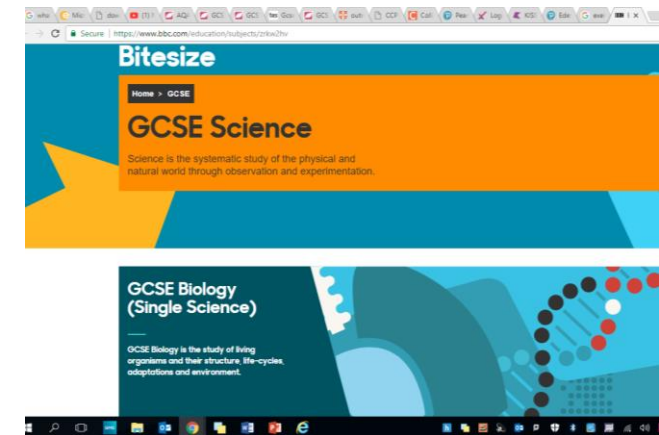
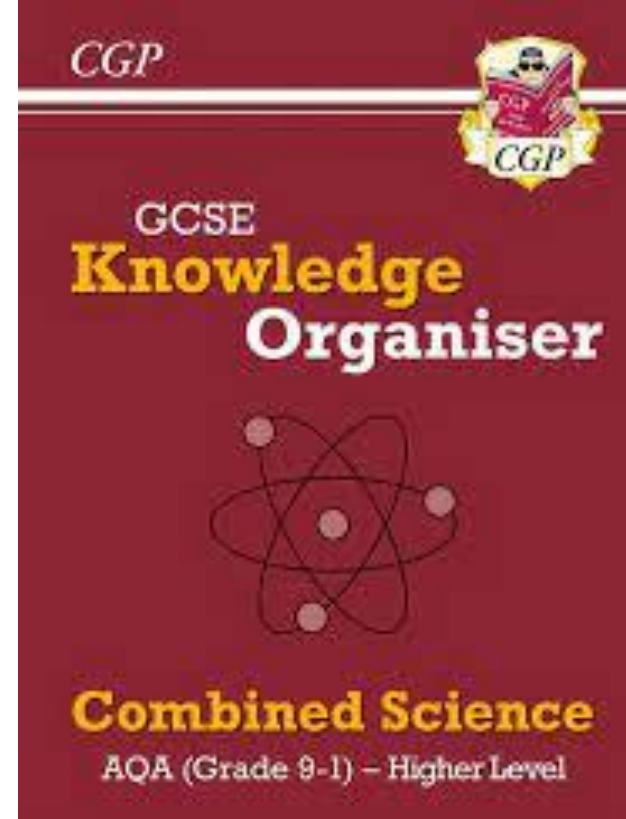
# Simplify your notes

With reference to the particle model explain why solids are usually denser than liquids.	Draw a particle model of a solid, liquid and a gas Label the changes of state 		What is meant by the term 'internal energy'?
Explain why changes of state are referred to as physical changes			How does heating change the energy stored within a system?
When a system is heated what does the temperature change depend on? (3 things)	What is the specific latent heat of fusion?	<b>3.1 – Particle model of matter</b> Describe the movement of molecules in a gas.	What is the difference between heat and temperature?
What is the specific heat capacity of a material?			Complete the units • SHC = ..... • SLH = ..... • Energy = ..... • Mass = ..... • Volume = ..... • Pressure = ..... • Thermal energy = ..... • Temperature = .....
What is 'latent heat'?	What is the specific latent heat of vaporisation?	What happens to the pressure of a gas if it is heated and the volume remains the same?	<b>EQUATIONS YOU MUST KNOW (and units)</b> Density ( ) = Equations to use: Change in thermal energy = mass x SHC x temp change Thermal energy for change of state = mass x SLH For gases: pressure x volume = constant



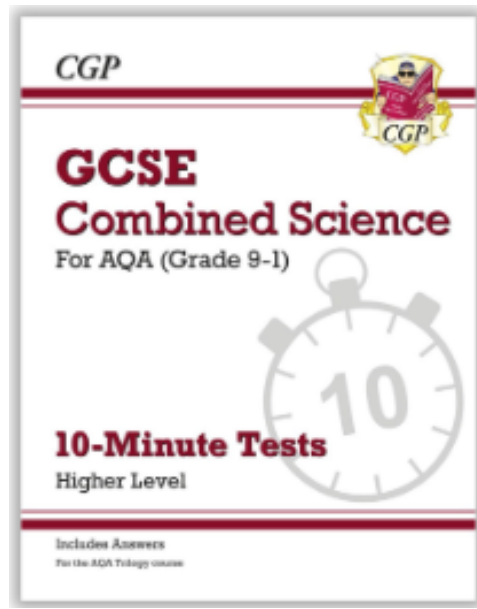
# Filling in the gaps

- Collins Revision guide
- CGP Knowledge Organisers
- Class books
- BBC Bitesize
- YouTube (primrose kitten, free science lessons)



# Test Your New Understanding

- Once you have gone over the key areas you needed to cover in a topic attempt some questions.
- These could be PiXL Grasp It's, a SENECA quiz, Collins/CGP revision guide worksheets, exam questions or using revision



**KEEP  
CALM  
AND ANSWER  
THE  
QUESTION**

# Keep Reassessing Your Knowledge

- At the start of the next 'science session' go back over the checklist and see how much has improved.



## Personalised Learning Checklist P2 Electricity

Topic	Student Checklist	R	A	G
4.2.1 Current, potential difference and resistance	Draw and interpret circuit diagrams, including all common circuit symbols			
	Define electric current as the rate of flow of electrical charge around a closed circuit			
	Calculate charge and current by recalling and applying the formula: $[Q = It]$			
	Explain that current is caused by a source of potential difference and it has the same value at any point in a single closed loop of a circuit			
	Describe and apply the idea that the greater the resistance of a component, the smaller the current for a given potential difference (p.d.) across the component			
	Calculate current, potential difference or resistance by recalling and applying the equation: $[V = IR]$			
	<b>Required practical 3:</b> Use circuit diagrams to set up and check circuits to investigate the factors affecting the resistance of electrical circuits			
	Define an ohmic conductor			
	Explain the resistance of components such as lamps, diodes, thermistors and LDRs and sketch/interpret IV graphs of their characteristic electrical behaviour			
	Explain how to measure the resistance of a component by drawing an appropriate circuit diagram using correct circuit symbols			
	<b>Required practical 4:</b> use circuit diagrams to construct appropriate circuits to investigate the I-V characteristics of a variety of circuit elements			
4.2.2 Series and parallel circuits	Show by calculation and explanation that components in series have the same current passing through them			
	Show by calculation and explanation that components connected in parallel have the same the potential difference across each of them			
	Calculate the total resistance of two components in series as the sum of the resistance of each component using the equation: $[R_{total} = R_1 + R_2]$			
	Explain qualitatively why adding resistors in series increases the total resistance whilst adding resistors in parallel decreases the total resistance			
	Solve problems for circuits which include resistors in series using the concept of equivalent resistance			

Equations you need to Recall (These are NOT given to you in the exam)

# Other Key Areas to Revise

- Equations
- Equations
- Equations!!!!

Weight = Mass $\times$ Gravitational Field Strength	$W = m g$	W in Newtons, N m in kg g in N/kg
Work Done by a Force = Force $\times$ Distance moved	$W = F s$	W in Joules, J F in Newtons, N s in metres, m
Force applied to a Spring = Spring Constant $\times$ Extension	$F = k e$	F in Newtons, N k in N/m e in metres, m
Moment of a Force = Force $\times$ Distance (normal to direction of force)	$M = F d$	M in Nm F in Newtons, N d in metres, m
Pressure = $\frac{\text{Force Normal on the Surface}}{\text{Area of the Surface}}$	$p = \frac{F}{A}$	p in Pascals, Pa F in Newtons, N A in m <sup>2</sup>

('Normal' means at Right Angles to)

Equations you need to Use (Th

	Elastic Potential Energy : $\frac{1}{2} \times \text{spring constant} \times \text{exten}$
HT	Pressure due to a Column of = Height of Column $\times$ Density of Liquid $\times$ Gravitational Field Stren

See our homework and revision app at [www](#).

- There is a total of 21.
- Put them up on your walls, use flash cards, go over them regularly and test yourself/your child.
- Required Practicals

## REQUIRED PRACTICAL

## Chromatography

## Method

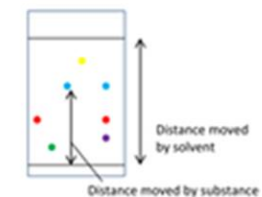
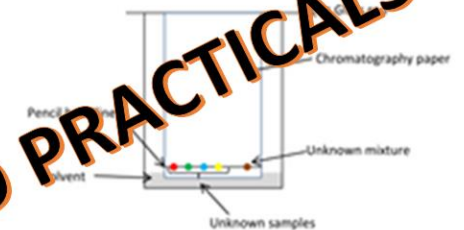
1. Draw a horizontal pencil line 2cm up from the bottom of some chromatography paper.
2. Mark five spots at equal distances along the line with a pencil.
3. Using glass capillary tubing put a small spot of each of the known colours onto four of the pencil dots. Put the unknown mixture onto the 5<sup>th</sup> spot.
4. Add water to a beaker to a depth of 1cm.
5. Tape the top of the chromatography paper to a glass rod, so that when the rod is rested on top of the beaker the bottom edge of the paper dips into the water but:
  - a. The pencil line is not in the water
  - b. The sides of the paper do not touch the beaker
6. Remove the chromatography paper when the solvent has travelled three quarters of the way up the paper.
7. With a pencil mark where the solvent has finished.
8. Allow to dry.
9. Measure the distance from the baseline to each spot of colour (substance) and the distance the solvent travelled.
10. Calculate  $R_f$ .

$$R_f = \frac{\text{Distance moved by substance}}{\text{Distance moved by solvent}}$$

## The Science

Any markings need to be drawn in pencil as pencil is insoluble. If drawn in ink the ink may dissolve in the water and move up the paper.

If this happens the ink spots will dissolve into the water.

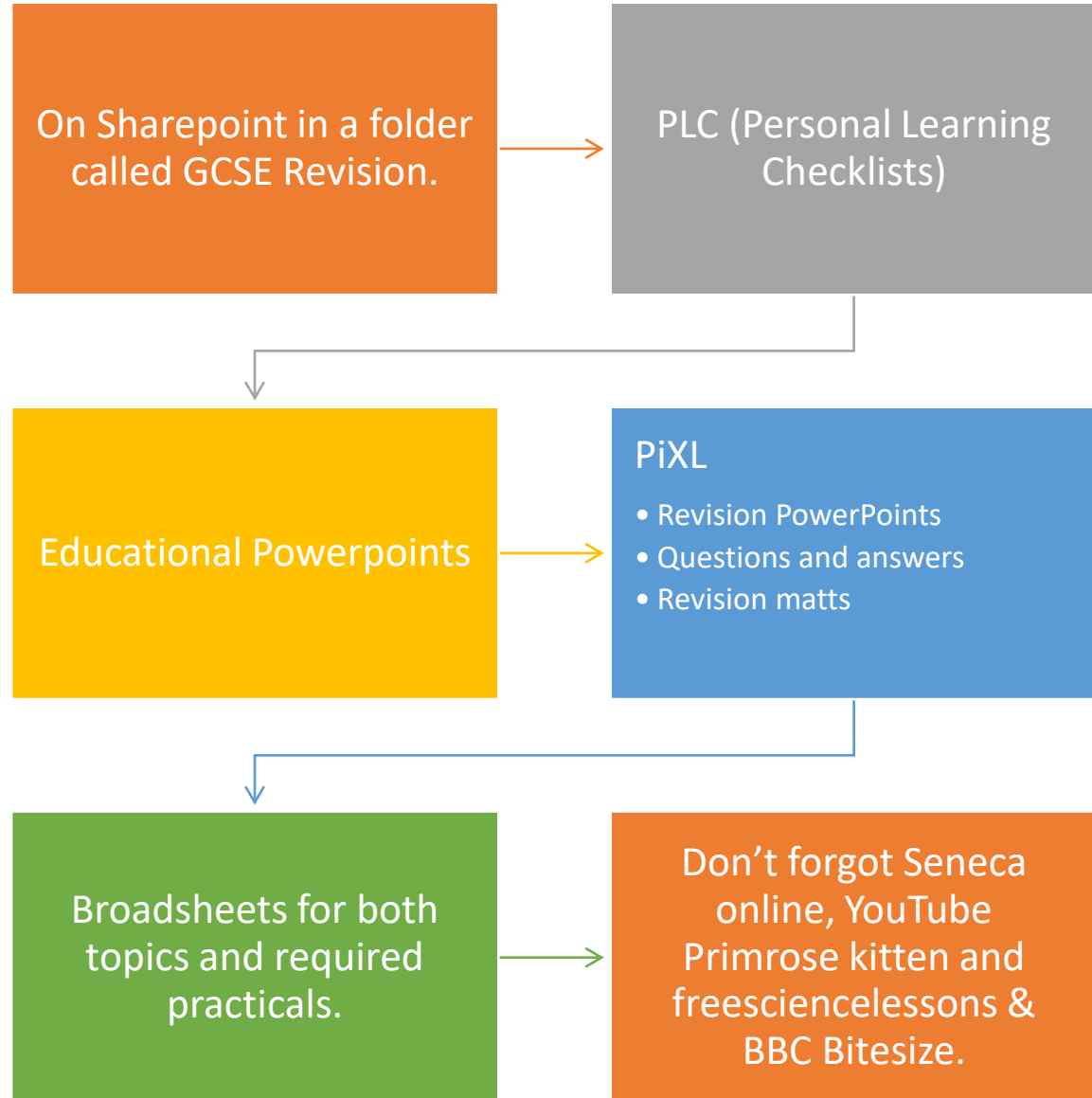


In this example a visual comparison shows that the unknown mixture contained samples 1, 3 (moved the same distance) and something else.

Calculating the  $R_f$  would confirm matches to 1 and 3, although the method should be repeated in different solvents. If the  $R_f$  values for the mixture matched the same known samples in all solvents then a match is confirmed.

**REQUIRED PRACTICALS**

# What resources do you have access to?



Learn



Revise



Test



How to Prepare for Your Study Time  
and Examinations  
Ms Lewis

Your lessons are vital:

Learn

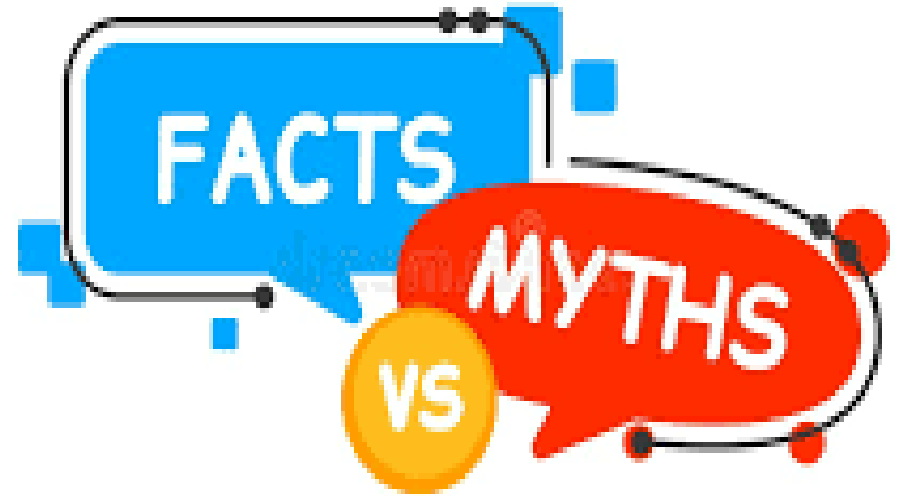


- Make the most of lesson time! **Learning takes place in class**, when you are completing **homework** or doing **additional research**.
- It is important that you **fully understand each topic** before you can revise it.
- If there is anything you don't fully understand, re-read the textbook, ask your teacher, ask another student to go over the topic with you.

# Revision Myth Busters!

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- *'I don't need to revise – I know it already.'*
- *'I have a photographic memory – I'll be fine.'*
- *'It is an unseen extract/text – I can't revise for it.'*
- *'I just need to do some past papers.'*
- *'I MUST memorise loads of quotes/facts for this.'*
- *'I'll just do some the night before or get up early on the day.'*





# The Study Process

Three Stages – plan ahead:



## **Stage One – Memory Bank/Knowledge Recall (NOW/as you cover a topic)**

Posters, mind maps, lists, highlighting stuff, note making, flash cards, quizzes, using images.

## **Stage Two – Preparing for the Actual Exam (2/3 weeks before a test/longer for the Year 11 Exams)**

Using past papers, timed writing, random extracts, annotating sample answers.



## **Stage Three – Confidence Building (close to a test or exam – the day before)**

Test your recall and make yourself feel good about what you can do.



# Strategies – Memory and Recall



- Flash cards
- Retrieval quizzes (Seneca/set your own/use BBC Bitesize)
- Condensing your notes
- Mind maps/flow charts
- You tube videos (Mr Bruff in English) Useful for extra information.
- Revise with others – tell someone about your topic, prompt each other
- Dual Coding – using images and words to help visualise information.
- Chunking, Linking topics

# Strategies – building confidence and experience

- Know what you'll be tested on. Use these:

**Exam Board Website/BBC Bitesize/Study Guides/Your Exercise Books**

- Check the Specification
- Know the Assessment Objectives
- Know the question types, timing and marks
- Get hold of past papers
- Look at Exam Board reports
- Timed writing – check mark scheme – do it all again
- Command Words – describe, outline, discuss
- Practise Academic Style Writing
- Repetition – get good at what you need to do



# Making a Study Zone



## Space to work

- ✓ a comfortable chair
- ✓ a clear desk
- ✓ good light
- ✓ comfortable temperature
- ✓ pens
- ✓ paper

Ask yourself but also ask for help:

- If the place where you do most of your school work is not easy to work in, what can you do to make it better?
- What distracts you when you are trying to settle down to revision?
- Can you do something to remove that distraction (eg place your phone in a different room)?
- If you find it difficult to study at home, arrange to stay longer in school – book in at the Library.

# Making a Study/Revision Timetable

Day	9:00 – 10:15	10:35 – 11:50	11:55 – 13:10	13:10 – 14:00	14:00 – 15:15	15:30 – 16:00	16:00 – 17:00	17:00 – 18:00	18:00 – 19:00	19:00 – 20:00	20:00 – 21:00	21:00 – 22:00
Monday				L		English	RE	Break	Music	English	Relax	Relax
Tuesday				M		Science	Break	Break	Maths	Geography	Relax	Relax
Wednesday				N		Break	Geography	English	Break	Maths	Music	Relax
Thursday				C		Maths	Science	Break	Business Studies	Relax	Relax	Relax
Friday				H		Walk	Break	English	Break	Maths	Business Studies	Relax
Saturday	Science	Maths	Geography	Science	Free	Free	Free	Free	Relax	Relax	Relax	Relax
Sunday	Geography	Free	Free	Relax	Relax	Science	maths	Break	Geography	RE	Relax	relax

- Map your subjects – break down into topics
  - Organise your books/notes into subjects. Collect all the stationery you might need
  - Create a timetable:
    - Aim to revise a little every day
    - Build in some unallocated study time because you may get a bit behind
    - Put the timetable up on the wall or fridge at home where everyone can see it. Ask your family to help you keep to it
- (Don't forget to block in down time and fun stuff.)



# Dealing with Stress



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Make time for important things – social time, exercise, fresh air, hobbies and interests, eating and sleeping

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Avoid last-minute late-night revision, not taking breaks, unrealistic targets and putting pressure on yourself

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Healthy Diet – slow releasing energy food, Protein, fruit and veg, lots of water.

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Don't skip meals.

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Relax before bed – avoid caffeine, screen time, working too late, tidy away your revision and work.

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Exercise regularly

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Try one of those Yoga/Meditation Apps – Calm, Headspace.

# Take Away Tips

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- You are already doing the work – but start planning ahead.
- Know your course/exam requirements.
- Set aside time for fun stuff.
- Use the resources we give you and your support network.
- Work on yourself – be calm, be organised, be informed, be confident.

Learn



Revise



Test



# Thank you

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Good Luck

