



# YEAR 11 INFORMATION EVENING

THURSDAY 25 SEPTEMBER | 6:00PM

VALUED, CHALLENGED, INSPIRED

# AGENDA

- Year 11 Big Picture – Mrs Hall
- Being 'Exam Ready' - Mr Lloyd
- Advice from Year 12 – Miss Butterfield
- A Healthy and Successful Year 11 – Mr Steer
- Subject Specific Exam Strategies
- Looking Ahead to Sixth Form – Mr Clarke



# September Next Year - 2026



*You are*  
**EVERY**  
**OPPORTUNITY**  
**YOU TAKE**



*You are*  
**EVERY**  
**CHALLENGE**  
**YOU OVERCOME**



*You are*  
**EVERY**  
**PERSON WHO**  
**INSPIRES YOU**



*You are*  
**EVERY**  
**QUESTION**  
**YOU ASK**



**EMMANUEL AND  
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*Associated Sixth Form*

A man in a maroon suit and black backpack stands on a stone wall, looking out over a city with a bridge and a river. The scene is captured from behind him, showing the back of his head and shoulders. The city below features a prominent blue bridge and a river. The sky is overcast.

# MESSAGE FROM YOUR FUTURE SELF

If they could  
send one  
message back in  
time, what  
would they say  
to you right  
now?

# KEY DATES:

**17 November – 28 November:** Trial Exams 2

**19 December:** Trial Exams Results Day

**15 January:** Year 11 Academic Consultation Evening

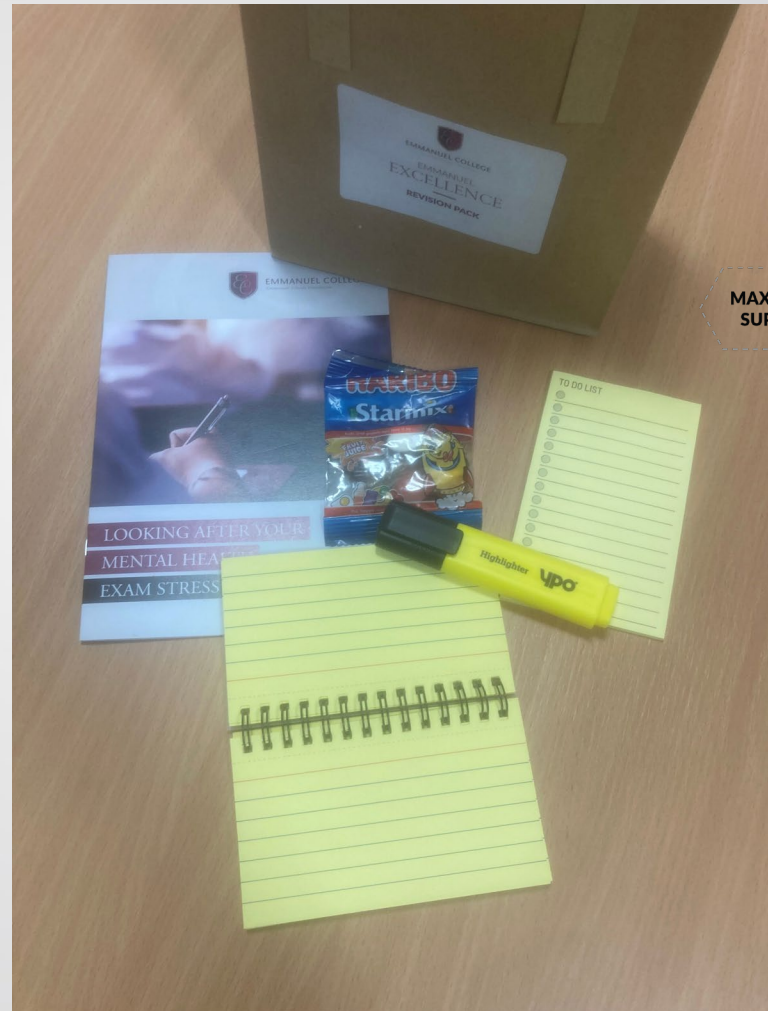
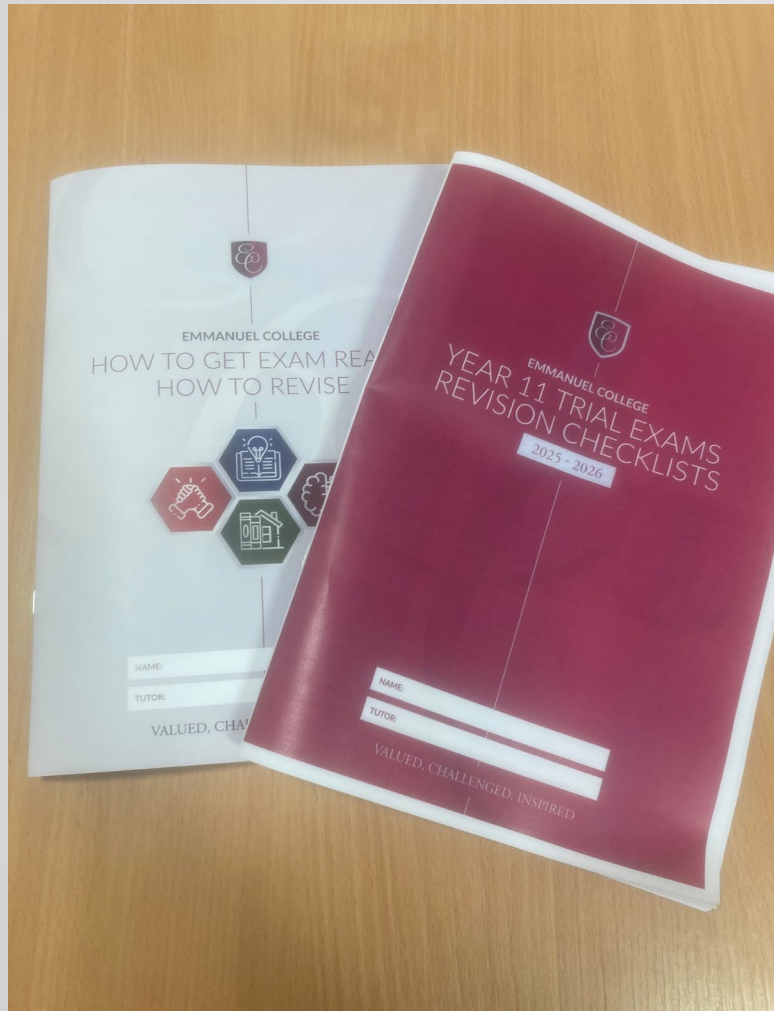
**2 March – 6 March:** Trial Exams 3

**7 May – 19 June:** GCSE exams

**20 August:** GCSE Results Day



# What's in the Bag?



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# Navigating successfully through Year 11



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# Am I Exam Ready?



## Being Exam Ready

Was I in school each day?

Did I get to every lesson on time?

Did I reduce toilet visits to the absolute minimum?

Did I try my hardest with Retrieval and try my best with each question?

Did I focus on what the teacher was saying and think hard about what they were teaching me?

Did I ask questions when I did not follow something?

Am I proud of the quantity and quality of work that I produced during my independent practice?

Did I hand all my homework in on time this week?

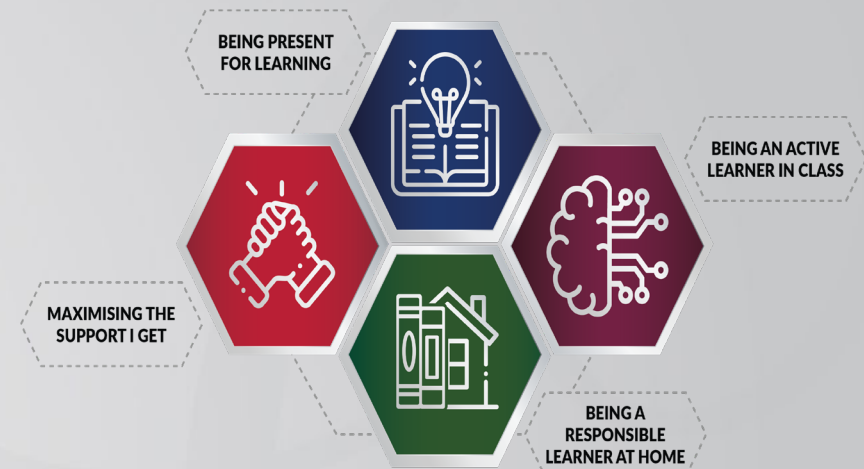
If I struggled on any aspect of my homework did I see the teacher in advance of the deadline?

Have I done any independent revision this week?

Did I use one of the techniques detailed in the Revision booklet?

If I was stuck on a topic this week did I speak to my teacher about it?

Have I attended all the extra sessions of support that I have been invited to?



Since the start of term, Year 11 have lost:  
807 minutes of learning.

Who is getting 100% on their Sparx?  
In the first week of term: 168.  
In the second week: 175.





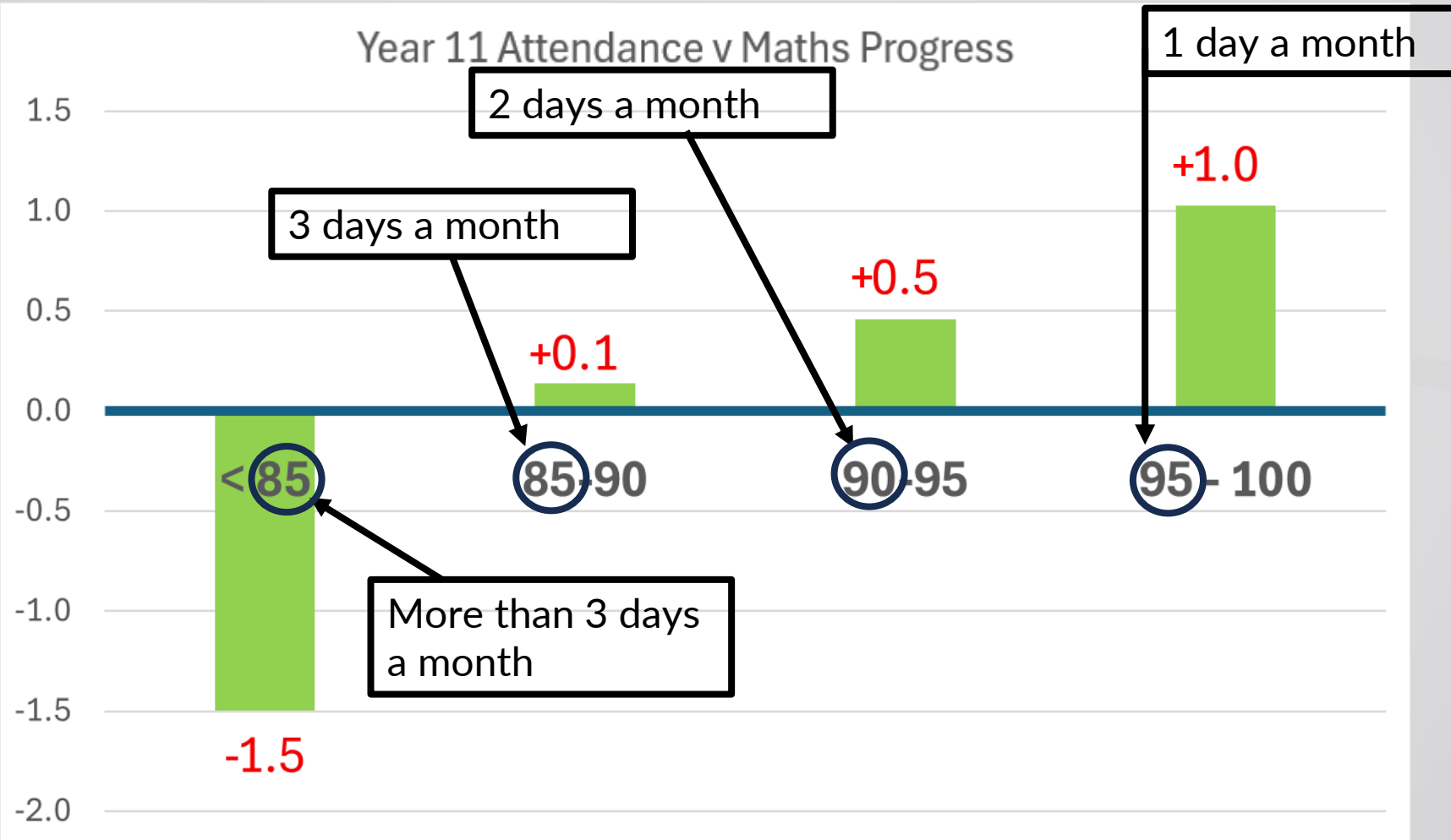
## BEING PRESENT FOR LEARNING

Was I in school each day?

Did I get to every lesson on time?

Did I reduce toilet visits to the absolute minimum?

Year 11 Attendance v Maths Progress



Nationally, pupils with 95%+ attendance were **2 times** more likely to achieve a Grade 5 or above in Maths and English than those with 90 - 95% attendance.

So cutting your absence from 2 days a month to 1 day a month **doubles** your chances of getting a 5+ in Maths and English.

What's the 1 most significant thing you can do to give yourself the best chance?

**Come to school every day.**



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## BEING PRESENT FOR LEARNING

Was I in school each day?

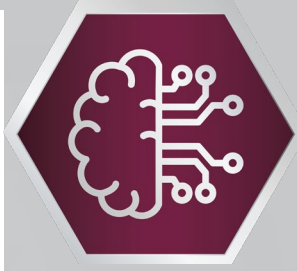
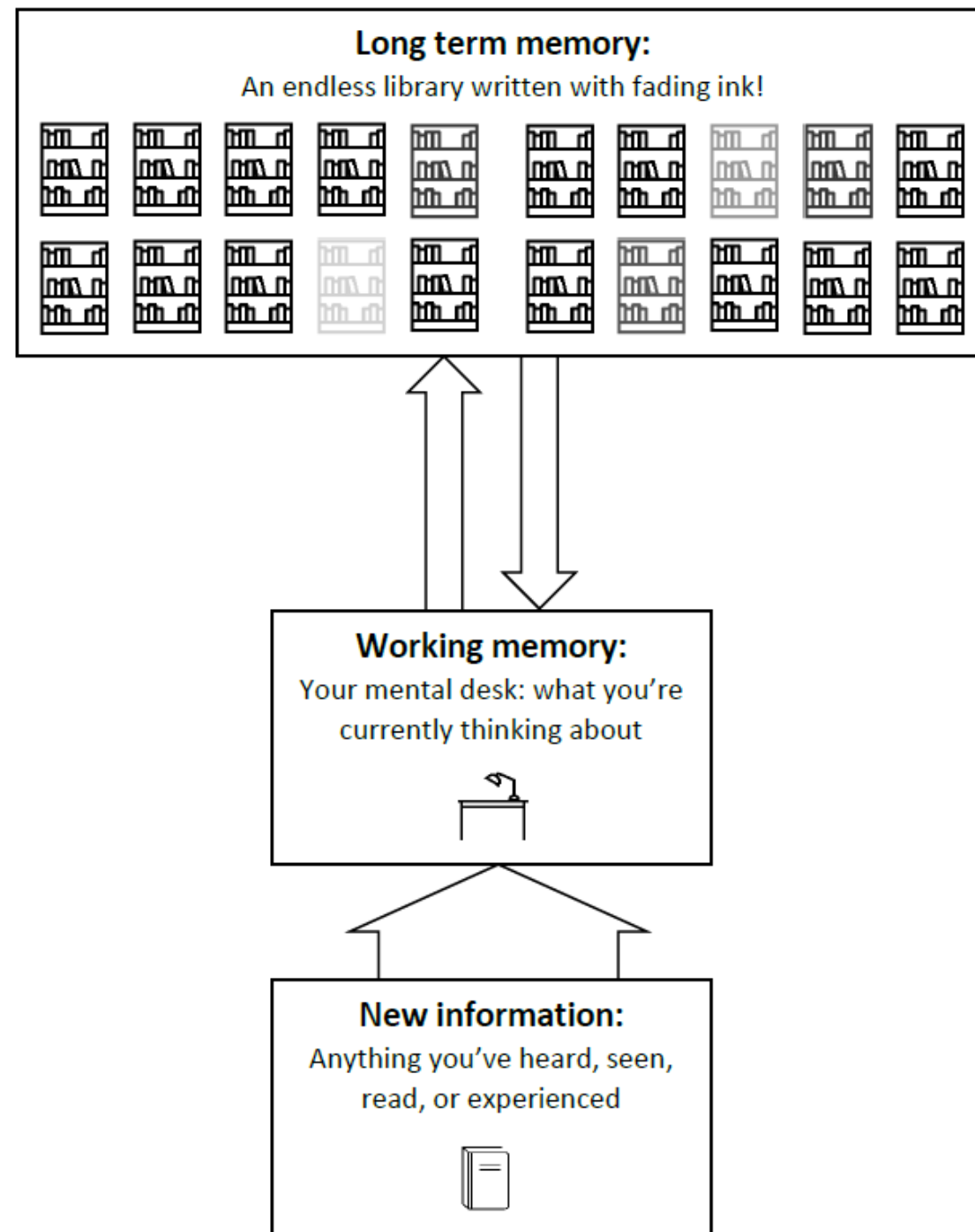
Did I get to every lesson on time?

Did I reduce toilet visits to the absolute minimum?

| Year 11 Attendance | Days lost a month | GCSE Maths grade compared to the national average |
|--------------------|-------------------|---------------------------------------------------|
| 100%               |                   |                                                   |
| 95-100%            |                   |                                                   |
| 90-95%             |                   |                                                   |
| 80-90%             |                   |                                                   |
| 70-80%             |                   |                                                   |
| 50-70%             |                   |                                                   |
| < 50%              |                   |                                                   |



How should we act in class  
and how should I revise?



BEING AN ACTIVE  
LEARNER IN CLASS



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# What does this mean for revision?

These strategies **do not** work:

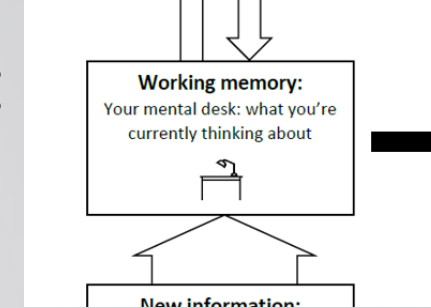
- Reading your notes.
- Re-reading your notes.
- **Highlighting** your notes.
- Copying your notes from one page to another.
- Underlining your notes.
- Watching YouTube videos.



# What does work for revision?

Strategies that make your memory **work hard**:

- Total recall.
- Drawing mind maps from memory then checking them against your notes.
- Doing essay plans and essay skeletons
- Creating and using flash cards.
- Answering past exam questions
- Doing independent learning on platforms like Sparx or Kayscience.



# One top Revision Skill: Total Recall



- 1) Get a blank notepad or exercise book and a pen.
- 2) Turn to a new page and write the subject and topic at the top that you want to practise recalling.
- 3) Spend 10 minutes (no more) against the clock filling the page with everything you can remember. Draw links between topics where appropriate. Don't look at your notes in this time.
- 4) When the time is up. Get your notes and add in a different coloured pen anything that you missed out.
- 5) That's it! Next time pick a different topic or different subject.

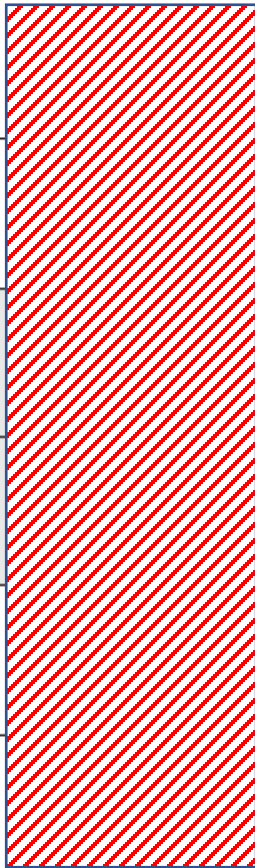
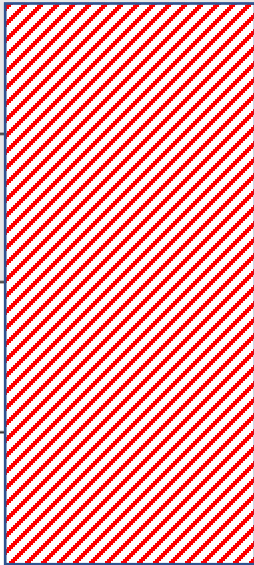
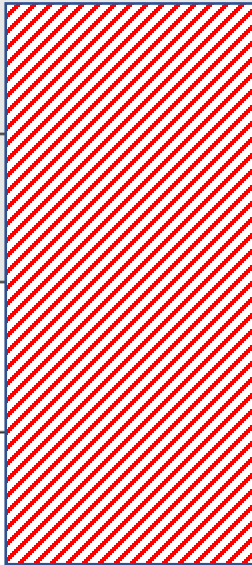
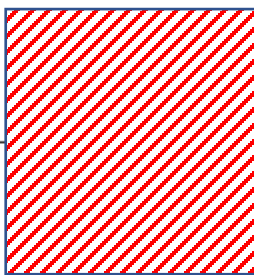
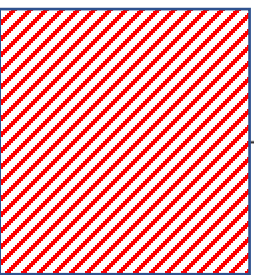
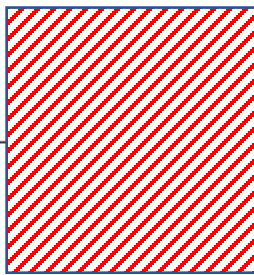
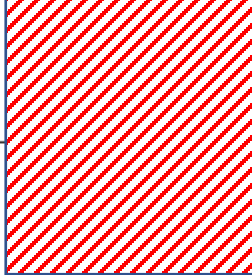


## PLANNING REVISION SESSIONS USING THE POMODORO TECHNIQUE:

|    |                                                                                                                                               |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Choose a time when you are well-rested and used to working.                                                                                   |
| 2. | Decide the specific task you are going to complete (e.g. I will complete a Science revision module about electrolysis of aqueous substances). |
| 3. | Set up your study area (See "Where should I revise?").                                                                                        |
| 4. | Revise for a maximum of <b>25 minutes</b> before having a break.                                                                              |
| 5. | Decide on how many 25-minute slots you will need to complete the task you have decided to complete.                                           |
| 6. | Set a timer for 25 minutes. Ideally use a digital timer which is not on your phone.                                                           |
| 7. | Spend the entire 25 minutes working. If you have spare time at the end, start another task.                                                   |
| 8. | When the timer goes off, leave your working area and take a 5-minute break.                                                                   |
| 9. | Repeat. Take a longer break after every 3rd 25-minute sessions.                                                                               |



# What can I do this weekend?

| Week commencing 29th September |                               |                                                                                    |                                                                                     |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|--------------------------------|-------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                | Monday                        | Tuesday                                                                            | Wednesday                                                                           | Thursday                                                                             | Friday                                                                               | Saturday                                                                             | Sunday                                                                               |                                                                                      |
| Subject & Topic                | Maths - Quadratics            |  | Geography - Ecosystems                                                              | Chemistry - Filtration                                                               | RE - 18 Passages                                                                     | Drama - Roles & Respon.                                                              | English - Poetry Quotes                                                              |                                                                                      |
| Task                           | Exam Qs                       |                                                                                    | Total Recall                                                                        | Mind map                                                                             | Total Recall                                                                         | Flashcards                                                                           | Flashcards                                                                           |                                                                                      |
| Subject & Topic                | History - 1930 - 1935 Germany |                                                                                    | English - Inspector Calls                                                           |  | French - House and Home                                                              | Maths - Functions                                                                    |  |                                                                                      |
| Task                           | Mind map                      |                                                                                    | Knowledge map                                                                       |                                                                                      | Flashcards                                                                           | Exam Qs                                                                              |                                                                                      |                                                                                      |
| Subject & Topic                | Biology - Mitosis             |                                                                                    |  |                                                                                      |  |  |                                                                                      |  |
| Task                           | Flashcards                    |                                                                                    |                                                                                     |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |



# What support will I have?

|                   |           |                     |
|-------------------|-----------|---------------------|
| <b>01/09/2025</b> | <b>1</b>  | First week of term  |
| <b>08/09/2025</b> | <b>2</b>  |                     |
| <b>15/09/2025</b> | <b>3</b>  |                     |
| <b>22/09/2025</b> | <b>4</b>  |                     |
| <b>29/09/2025</b> | <b>5</b>  | Next week!          |
| <b>06/10/2025</b> | <b>6</b>  |                     |
| <b>13/10/2025</b> | <b>7</b>  | BTG Week 1          |
| <b>20/10/2025</b> | <b>8</b>  | BTG Week 2          |
| <b>27/10/2025</b> | <b>9</b>  | Half-term           |
| <b>03/11/2025</b> | <b>10</b> | BTG Week 3          |
| <b>10/11/2025</b> | <b>11</b> | BTG Week 4          |
| <b>17/11/2025</b> | <b>12</b> | Year 11 Trial Exams |
| <b>24/11/2025</b> | <b>13</b> | Year 11 Trial Exams |
| <b>01/12/2025</b> | <b>14</b> |                     |
| <b>08/12/2025</b> | <b>15</b> |                     |
| <b>15/12/2025</b> | <b>16</b> | Last week of term   |





# Why should you go to your BTG sessions?

Students who attended their BTG sessions last year were:

- Twice as likely to achieve 5s in English and Maths.
- Four times as likely to achieve at least a 5 in all their subjects.
- Had a 70% greater chance of achieving an average of a grade 7 in all their subjects.
- Had an 80% greater chance of achieving at least one grade 9.



| Monday       |                    |                                |
|--------------|--------------------|--------------------------------|
| Time         | Subject            | Name of Tier                   |
| Lunchtime    | Economics          | Achieving your target grade    |
| Lunch time   | Religious Studies  | Excelling at Religious Studies |
| After School | English Language   | Achieving Grade 9              |
| After School | English Language   | Targeting Grade 7 and beyond   |
| After School | English Language   | Targeting Grade 5 and beyond   |
| After School | English Literature | Achieving Grade 9              |
| After School | English Literature | Targeting Grade 7 and beyond   |
| After School | English Literature | Targeting Grade 5 and beyond   |
| After School | Fine Art           | Fine Art                       |

| Tuesday       |                   |                                                                     |
|---------------|-------------------|---------------------------------------------------------------------|
| Time          | Subject           | Name of Tier                                                        |
| Before School | French            | Grade 6 and above                                                   |
| Before School | French            | Securing a Grade 5.                                                 |
| Before School | Religious Studies | Excelling at Religious Studies                                      |
| After School  | OCR Sport Studies | R185 Performance & Leadership & R184 Contemporary Studies in Sport. |
| After School  | Maths             | Grade 7 and above.                                                  |
| After School  | Maths             | Securing a Grade 5.                                                 |
| After School  | Maths             | Securing a Grade 4.                                                 |
| After School  | Geography         | Excelling at Geography                                              |
| After school  | Science           | Combined Science H: Biology                                         |
| After school  | Science           | Combined Science F: Physics                                         |

| Wednesday     |         |                               |
|---------------|---------|-------------------------------|
| Time          | Subject | Name of Tier                  |
| Before school | Spanish | Grade 6 and above             |
| Before school | Spanish | Securing a Grade 5.           |
| Lunchtime     | Drama   | Excelling at Drama            |
| After School  | Science | Biology triple - set 1        |
| After School  | Science | Biology triple - set 2        |
| After School  | Science | Biology triple - set 3        |
| After School  | Science | Combined Science H: Physics   |
| After School  | Science | Combined Science F: Chemistry |

| Thursday     |                   |                             |
|--------------|-------------------|-----------------------------|
| Time         | Subject           | Name of Tier                |
| After School | History           | Excelling at History        |
| After school | Design Technology | Achieving your target grade |
| After school | German            | Higher                      |

| Friday     |                   |                                |
|------------|-------------------|--------------------------------|
| Time       | Subject           | Name of Tier                   |
| Lunchtime  | Music             | Achieving your target grade    |
| Lunch time | Computer Science  | Achieving your target grade    |
| Lunch Time | Religious Studies | Excelling at Religious Studies |



## Tuesday

| Time          | Subject           | Name of Tier                                                        | Room | Week 1                                                | Week 2                                                   | Week 3                                                        | Week 4                                           |
|---------------|-------------------|---------------------------------------------------------------------|------|-------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------|
| Before School | French            | Grade 6 and above                                                   | 64   | Listening preparation                                 | Reading preparation                                      | Translation into English                                      | Translation into the TL                          |
| Before School | French            | Securing a Grade 5                                                  | 65   | Listening preparation                                 | Reading preparation                                      | Translation into English                                      | Translation into the TL                          |
| Before School | Religious Studies | Excelling at Religious Studies                                      | 8    | 12 Mark Questions                                     | 12 Mark Questions                                        | 12 Mark Questions                                             | 12 Mark Questions                                |
| After School  | OCR Sport Studies | R185 Performance & Leadership & R184 Contemporary Studies in Sport. | 5    | Improving Topic 2 strengths, weaknesses & action plan | Improving Topic 5 - Evaluation of leadership performance | R184 LO1 exam question practice                               | R814 LO1 exam question practice                  |
| After School  | Maths             | Grade 7 and above.                                                  | 47   | Cumulative Frequency.                                 | Surds.                                                   | Algebraic Fractions.                                          | Histograms                                       |
| After School  | Maths             | Securing a Grade 5.                                                 | 41   | Standard Form.                                        | Factoring and solving quadratics.                        | Venn Diagrams.                                                | Probability Trees                                |
| After School  | Maths             | Securing a Grade 4.                                                 | 45   | Solving equations and inequalities.                   | Mastering ratio.                                         | Angles in parallel lines.                                     | Mastering Fractions                              |
| After School  | Geography         | Excelling at Geography                                              | 24   | Confidently interpreting OS maps.                     | Applying OS maps to exam style questions.                | Confidently interpreting graphs and figures                   | Applying skills to unseen fieldwork.             |
| After school  | Science           | Combined Science H: Biology                                         | 52   | Tackling tricky exam questions: methods (Biology)     | Tackling tricky exam questions: analysis (Biology)       | Tackling tricky exam questions: Required practicals (Biology) | Tackling tricky exam questions: Plants (Biology) |
| After school  | Science           | Combined Science F: Physics                                         | 58   | Paper 1 difficult topics: Physics                     | Paper 1 difficult topics: Physics                        | Required practicals (Physics)                                 | Required practicals (Physics)                    |

and complete

ts (Biology)

ts (Biology)

ts (Biology)

required

chemistry

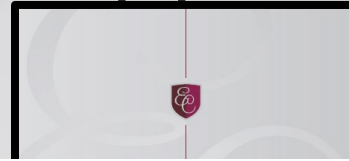
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| Day       | Subject                                                | Bridging the Gap Subject Content by Week (Rotation 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                             |  |  |
|-----------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------|--|--|
| Monday    | English Literature:<br>Grade 7 and beyond -<br>Room 33 | <b>Week 1:</b> Exploring Poetry: establishing analysis of authorial methods for impact and effect, including accurate use of subject terminology.<br><b>Week 2:</b> Exploring Poetry: forming comparative analysis connected by theme, taking into account ideas, perspectives and contexts.<br><b>Week 3:</b> Exploring Poetry: how to establish the structure of critical, comparative responses showcasing ideas, perspectives, authorial methods and<br><b>Week 4:</b> Exploring Poetry: forming comparative analysis connected by theme, taking into account ideas, perspectives and contexts.<br><b>Week 1:</b> How to make an extended response in biology.<br><b>Week 2:</b> How to make an extended response in biology.<br><b>Week 3:</b> Preparing for extended response in biology.<br><b>Week 4:</b> Data analysis in biology relating to disease. |                   |                             |  |  |
| Wednesday |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Subject   | Name of Tier                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Spanish   | Grade 6 and above                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Spanish   | Securing a Grade 5.                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Drama     | Excelling at Drama                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Science   | Biology triple - set 1                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Science   | Biology triple - set 2                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Science   | Biology triple - set 3                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Science   | Combined Science H: Physics                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Science   | Combined Science F: Chemistry                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                             |  |  |
| Room 51   |                                                        | Thursday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                             |  |  |
|           |                                                        | Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Subject           | Name                        |  |  |
|           |                                                        | After School                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | History           | Excelling at History        |  |  |
|           |                                                        | After school                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Design Technology | Achieving your target grade |  |  |
|           |                                                        | After school                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | German            | Higher                      |  |  |
| Wednesday |                                                        | <b>Week 1:</b><br><b>Week 2:</b><br><b>Week 3:</b><br><b>Week 4:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                             |  |  |
| Thursday  |                                                        | <b>Week 1:</b><br><b>Week 2:</b><br><b>Week 3:</b><br><b>Week 4:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                             |  |  |

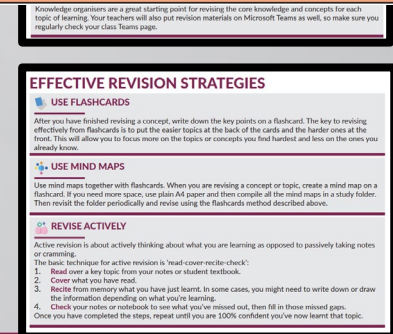


# Getting Exam Ready – Getting Support

1. Look through the Revision Booklet, Revision Checklists and other information we have given out. What techniques are you going to use for each subject?
2. Have a conversation at home about the 13 Getting Exam Ready questions, where can you improve? What should be your focus this term?
3. Decide on your revision schedule – when can you revise during the week?
4. Schedule in two 25-minute revision sessions for this weekend.
5. When you receive the BTG email, sit down and agree on attendance.



| Being Exam Ready                                                                               |
|------------------------------------------------------------------------------------------------|
| Was I in school each day?                                                                      |
| Did I get to every lesson on time?                                                             |
| Did I reduce toilet visits to the absolute minimum?                                            |
| Did I try my hardest with Retrieval and try my best with each question?                        |
| Did I focus on what the teacher was saying and think hard about what they were teaching me?    |
| Did I ask questions when I did not follow something?                                           |
| Am I proud of the quantity and quality of work that I produced during my independent practice? |
| Did I hand all my homework in on time this week?                                               |
| If I struggled on any aspect of my homework did I see the teacher in advance of the deadline?  |
| Have I done any independent revision this week?                                                |
| Did I use one of the techniques detailed in the Revision booklet?                              |
| If I was stuck on a topic this week did I speak to my teacher about it?                        |
| Have I attended all the extra sessions of support that I have been invited to?                 |





# A Recipe For Success



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# GCSEs Without Losing *Me*

Can year 11 be fun?



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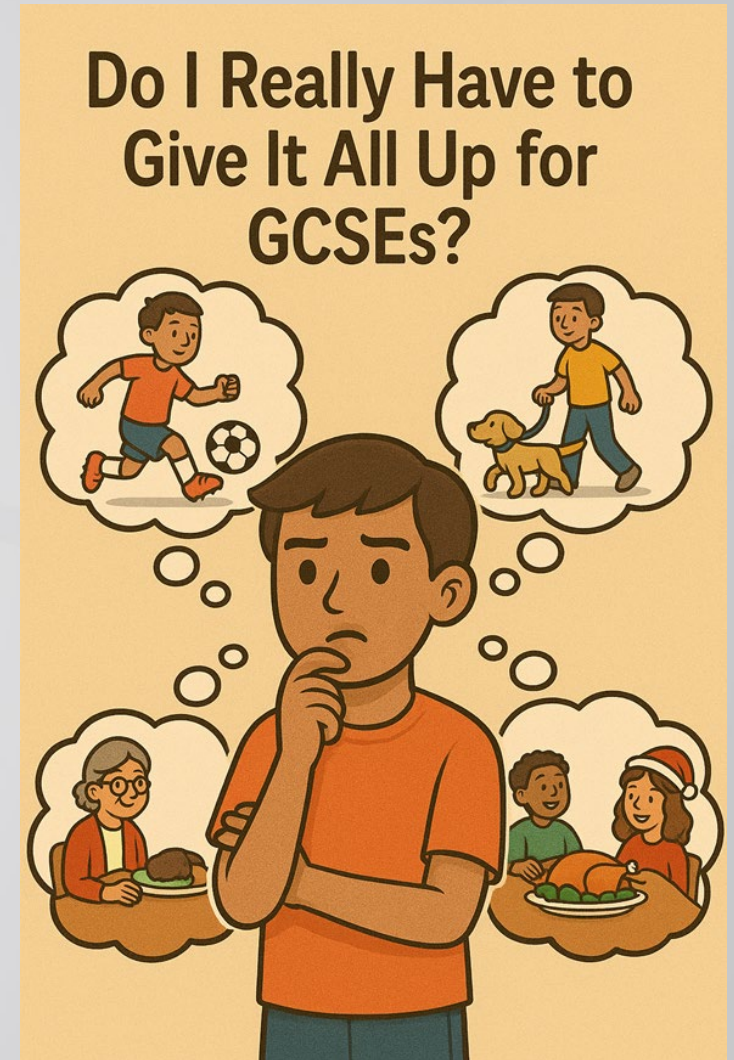


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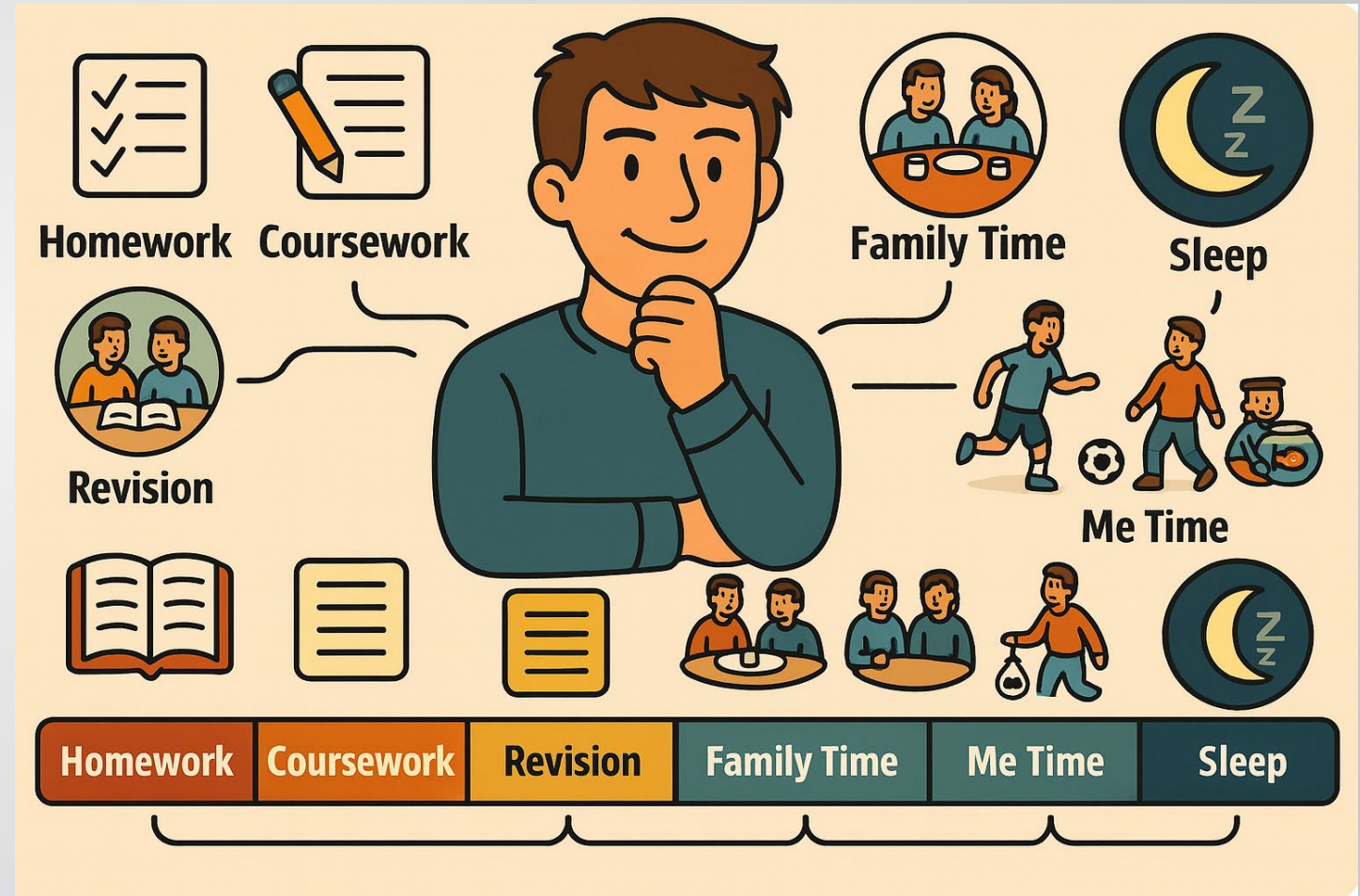
# The Exams Monster



Time is precious



Time is precious





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# How do we make the diamond of GCSE success



## How to make a diamond?

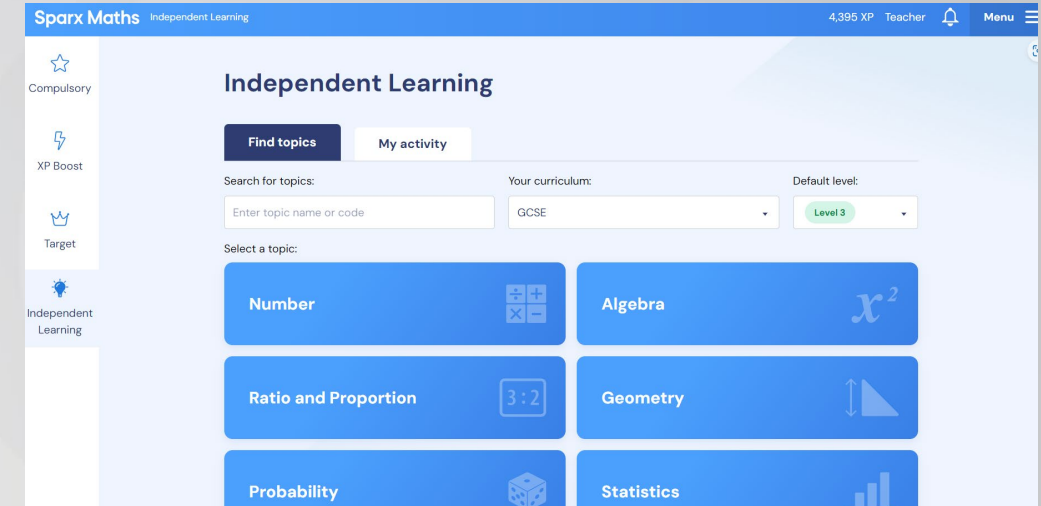
- Raw materials
  - Trust us
  - Talk to your teachers
- Time
- Structure
  - Be organised
  - Without it, its just coal
- Pressure
  - There can be too much
  - Wisdom (parents know you best)



# REVISION TIPS FOR MATHEMATICS:

**1. Sparx Maths** – Get 100% each week by the Wednesday your homework is due. Parents, check your child's dashboard in an evening to see if the homework is complete!

Utilise your revision checklist to review key topics and identify areas that need improvement.



## Grade 6

| Videos                                           | Exam Questions                 | Exam Questions Booklet                                     | Solutions                 |
|--------------------------------------------------|--------------------------------|------------------------------------------------------------|---------------------------|
| <a href="#">Recurring Decimals to Fractions</a>  | <a href="#">Exam Questions</a> | <a href="#">Converting Recurring Decimals to Fractions</a> | <a href="#">Solutions</a> |
| <a href="#">Fractional and Negative Indices</a>  | <a href="#">Exam Questions</a> | <a href="#">Fractional and Negative Indices</a>            | <a href="#">Solutions</a> |
| <a href="#">The Product Rule for Counting</a>    | <a href="#">Exam Questions</a> | <a href="#">The Product Rule for Counting</a>              | <a href="#">Solutions</a> |
| <a href="#">Repeated Percentage Change</a>       | <a href="#">Exam Questions</a> | <a href="#">Repeated Percentage Change</a>                 | <a href="#">Solutions</a> |
| <a href="#">Expanding Triple Brackets</a>        | <a href="#">Exam Questions</a> | <a href="#">Expanding Triple Brackets</a>                  | <a href="#">Solutions</a> |
| <a href="#">Parallel and Perpendicular Lines</a> | <a href="#">Exam Questions</a> | <a href="#">Parallel and Perpendicular Lines</a>           | <a href="#">Solutions</a> |
| <a href="#">Inequalities on Graphs</a>           |                                | <a href="#">Inequalities on Graphs</a>                     | <a href="#">Solutions</a> |

**2. Maths Genie** – Practice past exam questions to build familiarity with the exam format and strengthen your problem-solving skills.

## CASE STUDIES:

---

**Student A:** Achieved a grade 4 in the November trial exams. Started to complete 100% of homework each week on Sparx and 1-2 hours on independent learning in addition using their QLA checklist from the trial exams. In the summer exams, achieved a grade 7 and is now studying A-Level Maths.

**Student B:** Achieved a grade 5 in the November trial exams. Started Sparx homework each week but never completed to 100%. In the summer exams, achieved a grade 5.



# Revising for your Science exams



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# There are two main things you need to do – learn the content and practice your exam skills

## Learning the content

- Sources to help you:
  - Knowledge organisers
  - Revision guide
  - Kayscience
  - Online videos
  - Online (Kerboodle) textbook
  - Seneca
  - GCSE Teams pages



# KayScience

### B1 Cells

**Required Practical**  
**Microscopy Required Practical**  
Includes preparing a slide, using a light microscope, drawing any observations – use a pencil and label important observations.

**Types of microscope**

- Electron microscopes
  - Have a high resolution and magnification
  - Produce 3D images
  - Are very expensive
  - Require specimens to be dead
  - Require specimens to be thin
- Light microscopes
  - Can be used to look at living specimens
  - Are less expensive
  - Produce 2D images

**Organelles and their Functions**

- nucleus** - contains genetic material, including DNA, which controls the cell's activities
- cytoplasm** - jelly like substance where many chemical reactions happen
- cell membrane** - controls the movement of substances into and out of the cell
- mitochondria** - the site of aerobic respiration
- ribosomes** - where protein synthesis occurs
- cell wall** - strengthens and supports the plant
- permanent vacuole** - filled with sap to help keep the cell turgid
- chloroplast** - where photosynthesis occurs

**Specialised Cells**  
When a cell changes to become a specialised cell, it is called differentiation.

| Specialised Cell | Function                                     | Adaptation                                                                     |
|------------------|----------------------------------------------|--------------------------------------------------------------------------------|
| sperm            | To get the male DNA to the female DNA.       | Streamlined head, long tail, lots of mitochondria to provide energy.           |
| nerve            | To send electrical impulses around the body. | Long to cover more distance. Has branched connections to connect in a network. |
| muscle           | To contract quickly.                         | Long and contain lots of mitochondria for energy.                              |
| root hair        | To absorb water from the soil.               | A large surface area to absorb more water.                                     |
| phloem           | Transports substances around the plant.      | Pores to allow cell sap to flow. Cells are long and joined end-to-end.         |
| xylem            | Transports water through the plant.          | Hollow in the centre. Tubes are joined end-to-end.                             |

**Prokaryotic and Eukaryotic Cells**

**Animal Cells**  
nucleus, ribosomes, cell membrane, mitochondria

**Plant Cells**  
nucleus, ribosomes, cell membrane, cell wall, chloroplast, mitochondria

Plant and animal cells have similarities and differences:

|                   | Animal | Plant |
|-------------------|--------|-------|
| nucleus           | ✓      | ✓     |
| cytoplasm         | ✓      | ✓     |
| chloroplast       | ✗      | ✓     |
| cell membrane     | ✓      | ✓     |
| permanent vacuole | ✗      | ✓     |
| mitochondria      | ✓      | ✓     |
| ribosomes         | ✓      | ✓     |
| cell wall         | ✗      | ✓     |

**Bacterial Cells**  
Bacterial cells do not have a true nucleus, they just have a single strand of DNA that floats in the cytoplasm. They contain a plasmid.

### 1 Cell structure and transport

#### 1.1 The world of the microscope

**Learning objectives**  
After this topic, you should know:  
• how microscopy techniques have developed over time  
• the differences in magnification and resolution between a light microscope and an electron microscope  
• how to calculate the magnification, real size, and image size of a specimen.

Living things are all made up of cells, but most cells are so small you can only see them using a microscope. It is important to grasp the units used for both the specimens before you start to look at them.

**Using units**  
1 kilometre (km) = 1000 metres (m)  
1 m = 100 centimetres (cm)  
1 cm = 10 millimetres (mm)  
1 mm = 1000 micrometres (µm)  
1 µm = 1000 nanometres (nm) – so a nanometre is 0.000 000 001 metres or written in standard form as 1 x 10<sup>-9</sup> m.

The first light microscopes were developed in the mid-17th century. Their development has continued ever since and they are still widely used to look at cells. Light microscopes use a beam of light to form an image of an object and the best can magnify around 2000 times (x2000), although school microscopes usually only magnify several hundred times. They are relatively cheap, can be used almost anywhere, and can magnify live specimens (Figures 1 and 2).

The invention of the electron microscope in the 1930s allowed biologists to see and understand more about the subcellular structures inside cells. These instruments use a beam of electrons to form an image and can magnify objects up to around 200 000 times. Transmission electron microscopes give 2D images with very high magnification and resolution. Scanning electron microscopes give 3D images but their magnifications (Figure 3). Electron microscopes are large, very expensive, and have to be kept in special temperature, pressure, and humidity-controlled rooms.

**Calculating magnification**  
When you are using a light microscope to view a specimen, you will be looking at the image of the specimen. The magnification of the image is given by the formula:  
$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$
  
When you label drawings made using a microscope, make it clear that the magnification you give is the magnification at which you looked at the specimen (e.g., viewed at x40).

**Calculating the size of an object**  
You will want to calculate the size of objects under the microscope. There is a simple formula for this, based on the magnification triangle. Asking as you know or can measure two of the factors, you can find the third.

**Magnification**  
For example, if you know you are working at magnification x40, and the image of the cell you are looking at measures 1 mm, you can work out the actual diameter of the cell.

**Magnifying and resolving power**  
Microscopes are useful because they magnify things, making them look bigger. The height of an average person magnified by one of the best light microscopes would look about 3.5 m, and by an electron microscope about 3000 m. There is, however, a minimum distance between two objects when you can see them clearly as two separate things. If they are closer together than this, they appear as one object. Resolution is the ability to distinguish between two separate points and it is the **resolving power** of a microscope that affects how much detail it can show. A light microscope has a resolving power of about 200 nm, a scanning electron microscope of about 10 nm and a transmission electron microscope of about 0.2 nm – that is approximately the distance apart of two atoms in a solid substance!

**Key points**  
• Light microscopes magnify up to about x2000, and have a resolving power of about 200 nm.  
• Electron microscopes magnify up to about x200 000, and have a resolving power of around 0.2 nm.  
• Magnification = size of image / size of real object.

**Study tip**  
Make sure you can work out the magnification, the size of a cell, or the size of the image depending on the information you are given.

**Synoptic links**  
You can learn more about writing very small or very large numbers in standard form in the Maths skills section in Topic 10. For more information on cell division look at Chapter 82.

**Figure 1** A light microscope

**Figure 2** Microscopic drawing of an animal cell. A light microscope – magnification x100

**Figure 3** Chromosomes during cell division seen with a scanning electron microscope – magnification x1000



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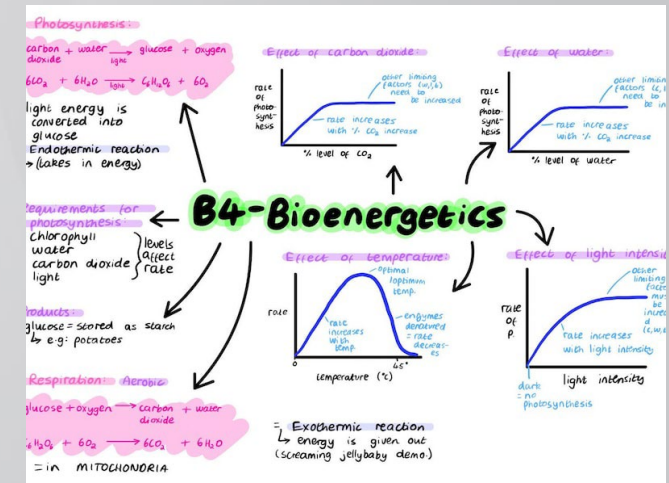
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# Learning the content

- Test yourself!
- Make mind maps from memory of topics, then use the knowledge organiser / revision guide / GCSE specification to see what you missed
- Cover up parts of your knowledge organiser and test yourself on key facts and key vocabulary
- Ask someone at home or a friend to use your revision guide or knowledge organiser to quiz you on the facts
- Don't forget the required practicals!



# Practising exam skills

- The best way to practice exam skills is to complete past papers and mark them.
- You can find these on the AQA website, Kayscience, or ask your teacher.

The screenshot shows the AQA website interface. The top navigation bar includes links for 'Contact us', 'About us', 'Join us', 'Log in', and a search bar. Below this, there are links for '2022 exam changes', 'Subjects', 'Qualifications', 'Professional development', and 'Exams admin'. The main content area is titled 'GCSE Combined Science: Trilogy (8464)' and provides information about the specification, including teaching and exam dates. A sidebar on the right offers various resources like 'Past Papers', 'Exam Booklets', 'Key Words', and 'Video Booklets'. The bottom section lists '2023 AQA', '2022 AQA', and '2021 AQA' papers with links to 'Answers'.

The screenshot shows the cover of the AQA GCSE Combined Science: Trilogy exam paper. It includes the AQA logo, the title 'GCSE COMBINED SCIENCE: TRILOGY', and the subtitle 'Higher Tier Physics Paper 2H'. The time allowed is 1 hour 15 minutes. The 'Materials' section lists required items: a protractor, a ruler, a scientific calculator, and the Physics Equations Sheet. The 'Instructions' section provides guidelines for writing, filling in boxes, and marking. The 'Information' section states the maximum mark is 70 and that marks are shown in brackets. A table for 'For Examiner's Use' is also present, with columns for 'Question' and 'Mark'.

| Question     | Mark |
|--------------|------|
| 1            |      |
| 2            |      |
| 3            |      |
| 4            |      |
| 5            |      |
| 6            |      |
| <b>TOTAL</b> |      |



# Making the most of KayScience

Kayscience contains:

- Video recaps of every topic, including the required practicals.
- Fact recall quizzes.
- A collection of 3-6 mark past paper questions with marking guidance.
- Live tuition during the exam season.
- *You don't need to wait for your teacher to assign work on here for you – use it independently!*
- *If you don't know your login – see your teacher ASAP!*



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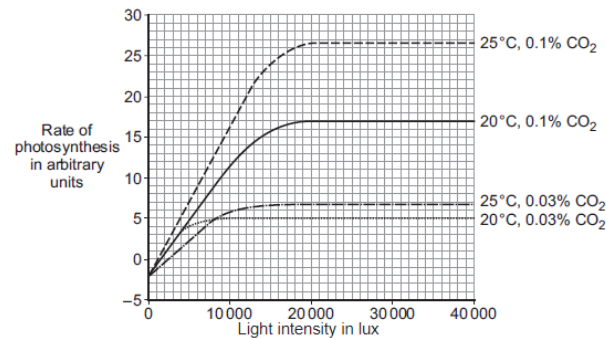
# Top tips – ‘wordy’ questions, tables and graphs

- When there is a lot of text, a diagram or a graph in the question stem – analyse it carefully!
- Annotate and highlight important pieces of information **before** you look at what the question is asking.

(d) Light intensity, temperature and concentration of carbon dioxide are factors that affect the rate of photosynthesis.

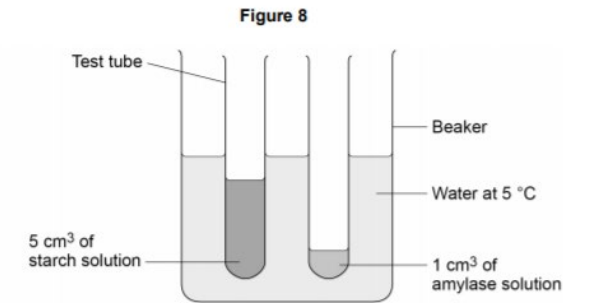
Scientists investigated the effects of these three factors on the rate of photosynthesis in tomato plants growing in a greenhouse.

The graph below shows the scientists' results.



A student investigated the effect of temperature on the activity of amylase.

Figure 8 shows the apparatus used.



This is the method used.

1. Set up the apparatus as shown in Figure 8.
2. After 5 minutes, pour the starch solution into the amylase solution and mix.
3. Remove one drop of the starch-amylase mixture and place onto a spotting tile.
4. Immediately add two drops of iodine solution to the starch-amylase mixture on the spotting tile.
5. Record the colour of the iodine solution added to the starch-amylase mixture.
6. Repeat steps 3 to 5 every minute until the iodine solution stays yellow-brown.
7. Repeat steps 1 to 6 using water at different temperatures.

# Top tips – required practical activities

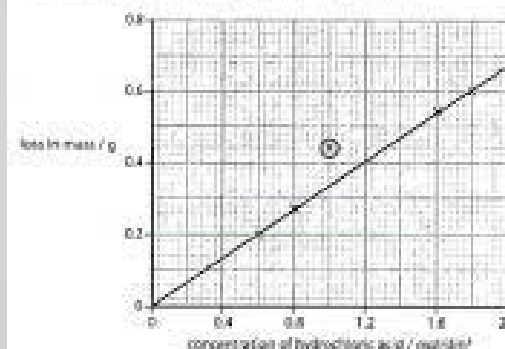
Revise the content of the practical activities – using online videos to view them again if necessary.

These may count for up to 15% of the overall marks for the qualification.

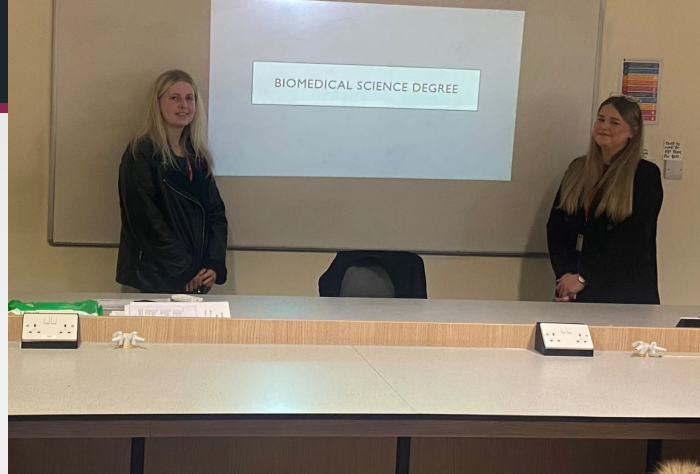
Many questions will focus on investigative skills and how well students can apply what they know to practical situations often in novel contexts.



(iii) The graph shows the results of this series of experiments.



# Science in sixth form leads to excellent destinations



Pharmacy  
Pharmaceutical Sciences  
Nursing  
Biomedical Sciences  
Medicine  
Optometry  
Zoology

Cardiac physiology  
Physiotherapy  
Paramedic science  
Biochemistry  
Primary teaching  
Midwifery  
Marine biology  
Astrophysics

# What can students do to support their revision in English Literature immediately?

Write summaries to revise plot

Create character profiles

Learn quotations: *read it, write it, speak it!*

Create mind-maps to record quick notes and illustrate symbolism



# Engaging with Retrieval. Building Knowledge.



3/10/23  
 Physiognomy - A theory that 'born' physical characteristics can be recognised by physical characteristics. 1-b, 2-c, 3-e, 4-a, 5-d.

5/10/23  
 "Mr Hyde was pale and dwarfish, he gave an impression of deformity without any nameable malformation, he had a displeasing smile."

Links to the idea of physiognomy. Creates an idea and imagery of a monster about Hyde.

--- he was trampling his victim under foot & hailing down a storm of abuse.

Semantic field created by Stevenson

Gothic Conventions - the novella is applicable to gothic conventions, including characteristics of animals, symbolism and the very setting, off the extraordinary.

all the more reports, let them to Dunsinane I cannot stand with fear. What's the boy Malcolm? nor he not born a woman?"

Jekyll and Mr Hyde context

- Science vs religion
- Physiognomy, science, medicine
- Christianity, morality, immortality
- Darwinism, creationism
- Victorian London, urban terror
- Alcoholism + addiction
- Freud: Id, Ego and superego

Stevenson presentation & duality the character construct underlying the duality. It can be truly

the idea that there are 2 sides to everyone: the respectable gentleman and the evil side. Jekyll represents the respectable man during the Victorian era while Hyde represents Jekyll's subconscious desire.

Dr Jekyll and Mr Hyde themes

- Good vs evil
- Duality
- Science vs religion
- Secrecy
- Nature vs supernatural
- Repression and reputation

"Before my body I throw my worldly shield. Lay on, Macduff, and damnd be him that first uses 'hold'."

Stevenson present the 12.10.23 Jekyll and Hyde Themes.

- Science vs religion
- Duality
- Good vs evil
- Victorian England
- Morality
- Repression and reputation

key throughout the novella to show the monster to be both good and evil known through Jekyll and Hyde, the monster through Jekyll's devil had long cases that his desire has been there, just the facade of polite society encapsulates the monster embodiment of Dr Jekyll.

10.10.2023 Explode the quotation

"I bear a charmed life, which must not go to one of woman's kind"

- reference to the witch's prophecies.
- Macbeth's arrogance - his fatal flaw
- his masculinity.
- he must show his strength against Macbeth
- prove himself more powerful.
- the witch's language of equivocation

creative demonstrates his lack of care and regard

was trampling his victim under foot

he is disregarded

evil foreshadowing sinister

"A certain sinister block of building... dark with an air of age and mystery... marks of prolonged and neglection"

"solid masonry"

Strange Case of Dr Jekyll + Mr Hyde

1. physiognomy
2. birth and hair
3. Freud: Id, Ego + Superego

Darwinism, creationism

Christianity, morality

Victorian London/urban terror

drug addiction

science medicine

Macbeth

Shakespeare Macbeth so feels invincible deep down the which still needs re

THE YEAR 11  
ENGLISH BOYS

# Breakfast



WEDNESDAY AND FRIDAY

**8.00 – 8.20 AM**  
**Lecture Theatre**

THE YEAR 11  
LADIES LUNCH

# Lunch



**Wednesday**

**Period 5**  
**12.20 – 13.05**

**Lecture Theatre**

# What can you do with A Level English Literature?



- Develops **highly transferable skills**, opening doors to further study and a **wide range of careers** in fields like publishing, journalism, marketing, law, and teaching.
- The **strong analytical, communication, and critical thinking skills** gained are valued across many industries.
- You can progress to a university degree in English Literature, English Language, or related subjects,
- Pursue professional roles such as **copywriter, editor, journalist, marketing executive, or teacher.**



# What can you do with A Level English Language?



*A Level English Language also offers a multi-faceted skill-based approach to a range of careers:*

- **Writing & Publishing:**

Become an editor, copywriter, journalist, content creator, or technical writer.

- **Marketing & Public Relations:**

Apply your skills to marketing, advertising, social media management, and public relations roles.

- **Law:**

The analytical skills gained are valuable for legal careers, such as in law or as a paralegal.

- **Linguistics & Technology:**

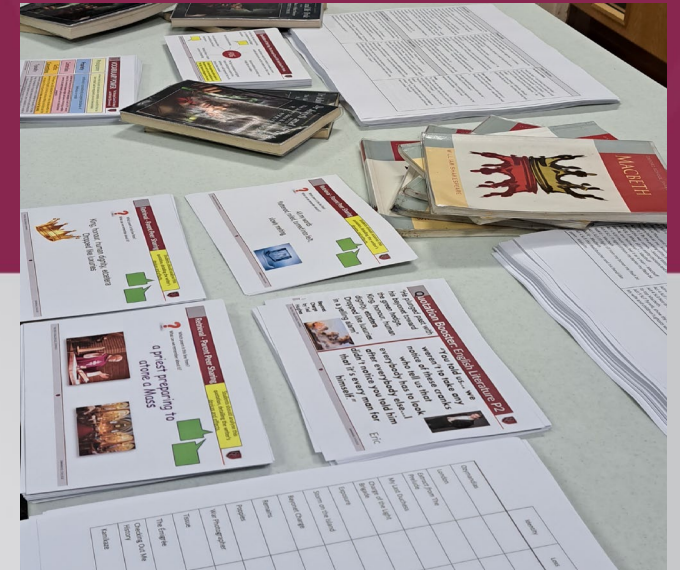
Pursue degrees and careers in linguistics, speech therapy, or work in the tech industry on *AI development* and speech recognition for digital assistants.



# Year 11 English Information Evening

Tuesday 11 November 5:30 – 7:00pm

*Refreshments provided.*



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# YEAR 11 INFORMATION EVENING

THURSDAY 25 SEPTEMBER | 6:00PM

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