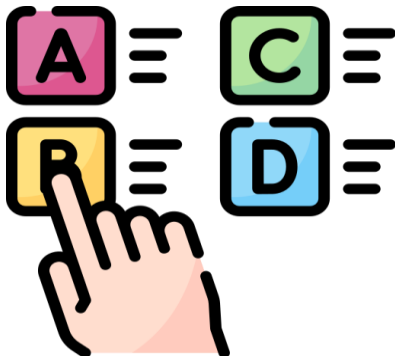
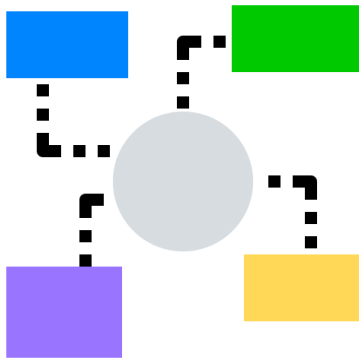




Revision Routines

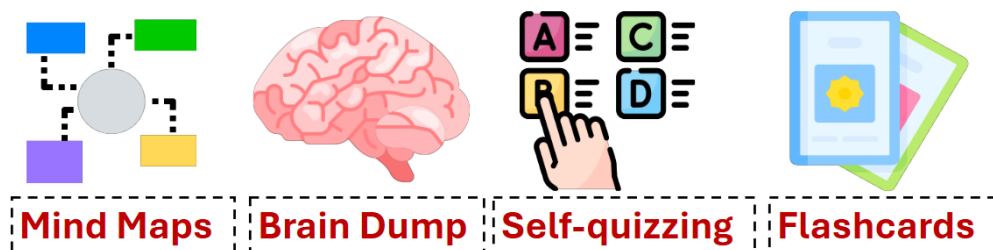


Small Steps. Big Wins!

What are the Core 4?

As Year 10 students at Aston Academy, you are at a pivotal point in your journey towards your GCSEs. To support your learning and revision, it is important to use effective strategies that not only improve recall but also build confidence and independence as you prepare for exams.

One of the most effective ways to do this is through the Core 4 revision strategies: flashcards, self-quizzing, mind maps, and brain dumps. Embedded within Team 27 sessions, these research-informed techniques are designed to strengthen memory, deepen understanding, and help students retain knowledge more effectively over time.



- Managing the Amount of Content:** GCSEs cover a lot of material, and these strategies help you break down and manage that content. They're active techniques that allow you to engage with what you're learning, rather than just passively reading or listening.
- Building Strong Revision Habits:** Year 10 is the perfect time to start practicing these techniques. Building effective study habits now will make your revision in Year 11 much easier and less stressful. If you're already using strategies like flashcards and self-quizzing now, you'll be well-prepared when it's time for serious exam preparation.
- Improving Your Exam Performance:** These strategies mimic the exam conditions, helping you get comfortable with recalling information under time pressure. Practicing self-quizzing and doing brain dumps can boost your confidence and make you feel more prepared for exam day.
- Tracking Your Progress:** These methods help you see how much you've learned. Mind maps and brain dumps, for example, are great ways to visualize your progress and track how your understanding improves over time.
- Maximizing Your Revision Time:** Time is precious, and you want to make the most of every revision session. These strategies are all about active learning—engaging with the material in a way that makes it stick, rather than just passively reviewing notes. This will make your revision more efficient and effective.

Small Steps. Big Wins!

When should I revise?

What is a revision timetable?

A revision timetable is an action plan outlining how you will approach your studies in preparation for your exams.

Why should I create a revision timetable?

Planning and setting goals is the most efficient way to work and prepare for your exams.

When done properly, a revision timetable ensures you make efficient use of the time you have available, studying the most appropriate topics at the right time.

It's very easy to lose focus and track of your studies without a clear plan in place.

Final tips for your revision timetable

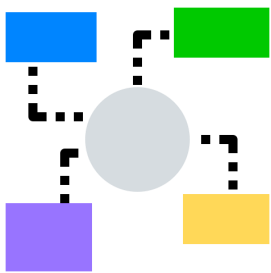
- Try a draft version of your timetable for a week, tweak any problems for the future weeks then stick to your revision plan.
- Be sure to mix up your day. Don't study the same subject and topic back-to-back all day long.
- Don't work until exhaustion, make sure you take the planned breaks and reward time.
- Be realistic with your time and goals.
- Make sure you include periods of exercise, it will help to increase productivity and reduce stress and tiredness.
- Make use of short periods of wasted free time, e.g. what simple revision task could you be doing during that car journey?
- Revise each day. Some revision every day is more effective than a single full day of study.
- Don't throw old timetables away, use them to keep track of your progress.



Time	Monday	Tuesday	Wednesday	Thursday	Friday
16:00					
16:30					
17:00					
17:30					
18:00					
18:30					
19:00					
19:30					
20:00					
20:30					
21:00					
21:30					

Time	Saturday	Sunday
09:00		
09:30		
10:00		
10:30		
11:00		
11:30		
12:00		
12:30		
13:00		
13:30		
14:00		
14:30		
15:00		
15:30		
16:00		
16:30		
17:00		
17:30		
18:00		
18:30		
19:00		
19:30		
20:00		
20:30		
21:00		
21:30		

You are not expected to fill all this- choose the times and days that work for you.



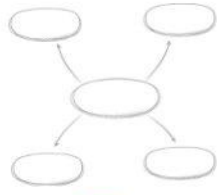
Mind Maps



1

Identify Knowledge

Identify the subject knowledge/content you wish to cover



2

Identify sub topics

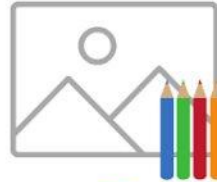
Place the main topic in the middle of the page and identify sub topics that will branch off



3

Branch off

Branch off your sub topics with further detail



4

Use images and colour

You can add images and colour to help information stick in your memory



5

Put it somewhere visible

Place the completed mind maps somewhere where you can see them frequently

Try to recreate it from memory



Avoid using too much information on your Mind Map. If you overcrowd the page, you will find it harder to visualise the information when trying to recall it.

Chemistry Paper One

Reactions:
 $\text{acid} + \text{metal hydroxide} \rightarrow \text{salt} + \text{water}$
 $\text{Cl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
 $\text{acid} + \text{metal} \rightarrow \text{salt} + \text{hydrogen}$
 $\text{Kl} + \text{Mg} \rightarrow \text{MgCl}_2 + \text{H}_2$
 $\text{acid} + \text{metal carbonate} \rightarrow \text{salt} + \text{water} + \text{carbon dioxide}$
 $\text{HCl} + \text{Na}_2\text{CO}_3 \rightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2$

Acids + Bases
 (neutralise each other)
 Difference between a strong and a weak acid:
 Strong acids fully dissociate into H^+ ions. Weak acids only partially dissociate into H^+ ions.
 Concentration: OH concentration = more acid particles in water - does not mean it is a strong acid.

Indicators:

	acid	neutral	alkali
litmus	red	purple	blue
metallochrome	red	yellow	yellow
phenolphthalein	colourless	colourless	pink

Phytoextraction:
 Disadvantages:
 It is a slow process when there is a high demand for metals.
 Plants cannot use or get rid of the metals so they gradually build up in the leaves. The plants can be dried/burned. The ash contains the metal compounds which can be extracted using electrolysis.

Bioleaching:
 How does it work?
 Bacteria get energy from the bonds between the atoms in the ore, separating the metal from the ore as they break the bonds. The leachate (solution produced) contains metal ions which can be extracted using electrolysis.
 What is an ore?
 An ore is a rock or contains enough metal to make extraction worthwhile.

Electrolysis:
 Definition: Electrolysis is the breaking down of a substance using electricity.
 Key words:
 - Anion - A negative ion
 - Cation - A positive ion
 - Anode - A positive electrode
 - Cathode - A negative electrode
 Rules:
 1) Anions → Anode
 2) Cations → Cathode
 3) Anions always oxidised
 4) Cations always reduced.
 Practical:
 Two inert electrodes placed into solution & immerse ionic solution connect the power supply.
 Aqueous solutions:
 $\text{H}_2\text{O} \rightarrow \text{H}^+ + \text{OH}^-$
 In aqueous solutions you also have to account for H^+ ions and OH^- ions.
 Rules with aqueous soln:
 1) At the cathode if H^+ ions are present, hydrogen gas will be produced if the metal is more reactive than hydrogen.
 2) At the anode, if OH^- and hal ions are present, molecules of chlorine, bromine or iodine will be produced, if not oxygen is produced.

Bonding:
 Covalent Bonding:
 A covalent bond is a shared pair of electrons.
 Dot and cross diagram:

 Giant covalent structures:
 Diamond: 4 covalent bonds
 Graphite: 3 covalent bonds

Metallic Bonding:
 Two metals:

 Properties:
 1) Shiny
 2) Malleable
 3) Sea of delocalised e- are free to move so they can carry an electrical current → conduct electricity
 4) High melting/boiling points

Ionic Bonding:
 Structure:
 - Giant lattice structure regular arrangement of ions.
 Properties:
 High melting and boiling points.
 Conduct electricity when molten but not when solid.
 Dissolve easily in water.



Brain Dumps



1

Identify Knowledge

Identify the subject knowledge/content you wish to cover

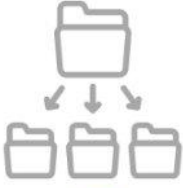


2

Write it down

Take a blank piece of paper/whiteboard and write everything you can remember about the topic with no prompts

Give yourself a timelimit (eg 10 mins)



3

Organise information

Once complete and you can not remember anymore use different colours to highlight and underline words in groups

This categorises information



4

Check understanding

Compare your brain dump to your source and check your understanding



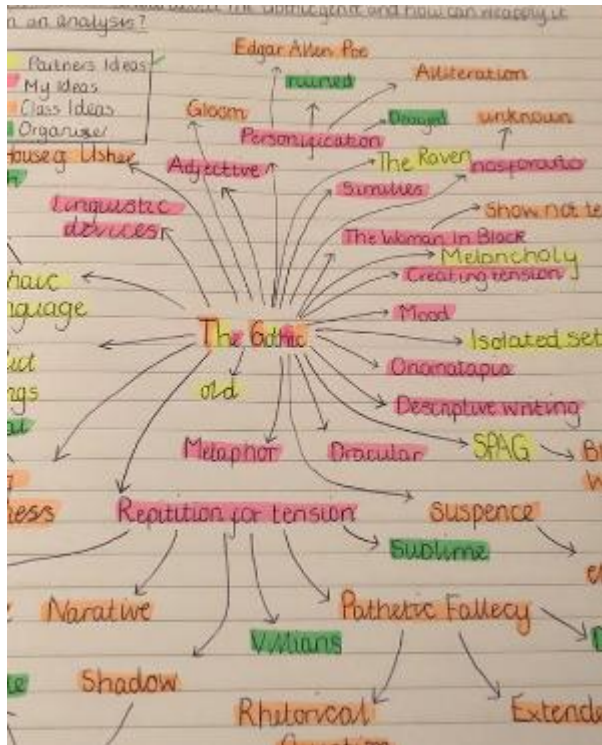
5

Next Steps

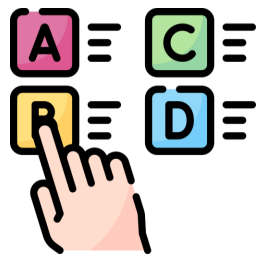
Keep your brain dump safe and revisit it



Ensure you do not just focus on the subjects or topic areas you already know lots about. It could be worthwhile RAG rating your topics and focusing on the Red areas first.



Small Steps. Big Wins!



Self Quizzing



1

Identify Knowledge

Identify the subject knowledge/content you wish to cover



2

Review & Create

Spend around 5 - 10 minutes reviewing content (knowledge organisers, class notes, text book)

Create questions based on this topic or use pre prepared questions



3

Cover & Answer

Cover up the information and answer the questions from memory

Answer every question and in as much depth as you can



4

Check Understanding

Go back to the content and self mark your answers

Correct any you got wrong



5

Next Time

Revisit the areas where there were gaps in knowledge and quiz again on these next time



When answering quiz questions:

Do:

- ✓ ...answer every question, even if you are unsure.
- ✓ ...write the answers to the questions from memory.
- ✓ ...answer the questions in as much depth as you can.
- ✓ ...mark and correct your answers after you have finished.
- ✓ ...improve your knowledge of incorrect answers after you have marked your answers.
- ✓ ...keep a record of your scores.

Don't:

- X ...skip questions because you find them difficult or you are unsure about the answer.
- X ...answer the questions using textbooks or knowledge organisers.
- X ...write single word answers so you can answer the question as quickly as possible.
- X ...assume that your answers are correct.
- X ...throw the quiz away as soon as you have finished it.

Small Steps. Big Wins!



Flashcards



1

Identify Knowledge

Identify the subject knowledge/content you wish to cover



2

Colour Coding

Use different coloured flash cards for different topics

This will help with organisation NOT recall



3

Designing

Create 1 question per flashcard, making it less likely that you will miss key points

Considering using pictures/symbols or an app such as Quizlet



4

Checking understanding

Write your answers down, then check. Or say them out loud. This really clearly shows gaps in your knowledge

Do not copy and re read

Shuffle the cards each time you use them



5

Next Steps

Consider how you have performed in recalling the core knowledge

Once you are secure then make sure you move to practice applying that knowledge in exam questions



One of the key things is to know when they are effective. Flashcards work best when you have two pieces of information to learn, for example, a word and a definition. They are great for learning vocabulary in French, key terms in any topic, equations in maths and science and quotations in English.

Write a question

What is coastal erosion?

Write the answer on the back

The wearing away and removal of material by a moving force, such as a breaking wave.