BEST Revision

Mayfield School
being the best that we can be

Practice makes perfect

Perfect practice makes perfect

BEST Revision is an effective way to revise. It is supported by many years of research.

"I used these ideas not only in my A-Levels but through University too - this helped me get my degree."

Amina Khan Qualified Pharmacist and ex-Mayfield Student.

Use the following timings as a guide. Some parts may take more or less time depending on the topic – you don't have to stick exactly to these timings.

Minute 0-5	**PLAN**	• Decide what you need to revise. What areas are worth most marks? What areas are you weakest on? PLCs? • What exam questions can you answer on this topic? Find the questions and mark schemes and have them ready.
Minute 5-20	**RECAP**	• Go through your notes on the topic. • Transform your notes by turning them into a table, mind map, acronym, recording, poster, bullet points or questions.
Minute 20-25	**RECALL**	• Strengthen your memory by covering notes and writing down everything you can remember about the topic. • Keep going until you have written everything you can remember.
Minute 25-30	**CHECK**	• Check what you recalled against your original notes. • Anything you forgot, add to your notes.
Minute 30-45	**EXAM QUESTIONS**	• Where possible, answer an exam question on the topic without notes and in timed exam conditions. • Or complete a task, e.g. from from PIXL Independence, your revision guide or MathsWatch.
Minute 45-50	**MARK**	• Self-assess your answer against the mark scheme. • What was right/wrong? Is there anything you missed? • Add anything missing to your notes.
Minute 50-55	**FIX-IT**	• Cover your notes and the mark scheme and 'fix' your original answer.
Minute 55-60	**RE-MARK**	• Re-marking your 'fixed' answer. Did you improve? • Check your notes have all the information you need. • Now reward yourself with a break – refresh your brain!

Revision Advice

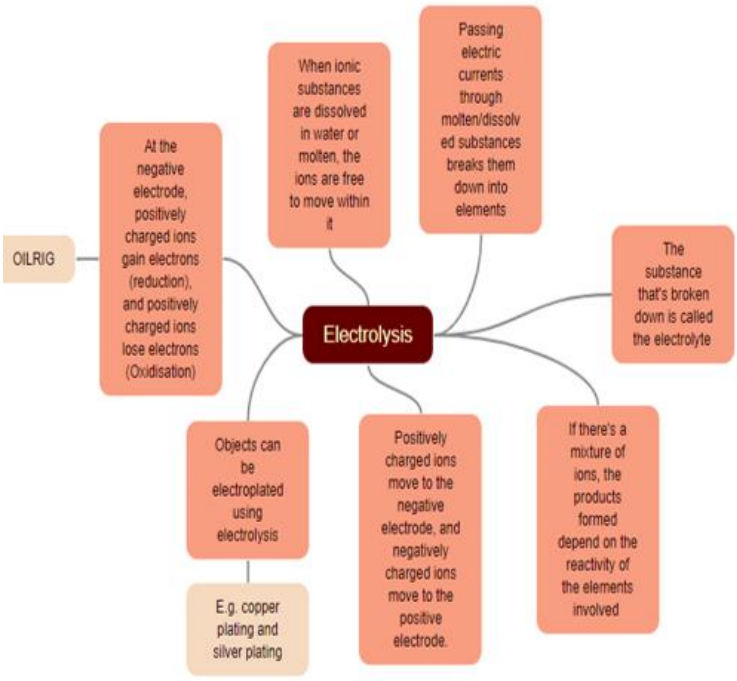
- Drink plenty of water
- Put your phone away!
- Find a clear space to revise
- Little and often – don't binge!
- Take regular breaks
- Know what topics need revising
- Put reminders around the house or your room, e.g. formulas, quotes
- MathsWatch
- SAM Learning
- BBC bitesize

PLAN

TOPIC 4-Chemical Changes	
Acids & Bases	X
Titrations	✓
Strong Acids, Weak Acids and their Reactions	X
Warm-up & Exam Questions	X
Metals and their Reactivity	X
Redox Reactions	✓
Electrolysis	✓
Electrolysis of Aqueous Solutions	✓
Warm-up & Exam Questions	X
Revision Summary for Topic	X

4.4.3 Electrolysis
Describe how ionic compounds can conduct electricity when dissolved in water and describe these solutions as electrolytes
Describe the process of electrolysis
Describe the electrolysis of molten ionic compounds and predict the products at each electrode of the electrolysis of binary ionic compounds
Explain how metals are extracted from molten compounds using electrolysis and use the reactivity series to explain why some metals are extracted with electrolysis instead of carbon
Describe the electrolysis of aqueous solutions and predict the products of the electrolysis of aqueous solutions containing single ionic compounds
Required practical 3: investigate what happens when aqueous solutions are electrolysed using inert electrodes
HT ONLY: Describe the reactions at the electrodes during electrolysis as oxidation and reduction reactions and write balanced half equations for these reactions

RECAP



RECALL & CHECK

This is the process of breaking down ~~an~~ a substance-compound by passing electricity through it.
In a solid, the ~~atoms~~ ions are held firmly in a lattice.
The ~~particles~~ ions cannot move so the solid ionic compound cannot conduct electricity.
Need to go over giant ionic lattice on page 18
Only molten solids or solids in solution can conduct the current. This is because the ~~particles~~ ions can now move.
As the process occurs the positive ions move to the negative electrode
The negative ions move to the positive electrode

Important!! Make sure I understand this

Cations to Cathode -cations are positive so will be attracted to the cathode (negative electrode)

Anions to Anode- anions are negative so will be attracted to the anode (positive electrode)

Many students get this confused according to the examiner's report.
Ca2+ Na+ Cations
Cl- OH- Anions
At the electrodes:
reduction occurs at the cathode
Al3+ + 3e- → Al
Oxidation occurs at the anode
O22- +2e- →O2

Make sure I can write these equations at the electrodes

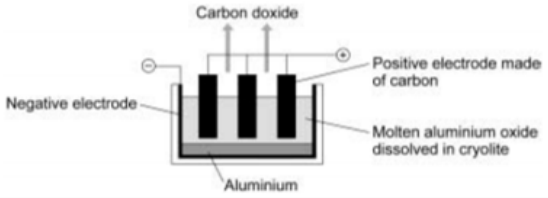
EXAM Q, MARK & FIX

Q25. Read the information in the box and then answer the question.

Aluminium is made by the electrolysis of aluminium oxide.

Aluminium oxide is an ionic compound containing aluminium ions (Al^{3+}) and oxide ions (O^{2-}).

The diagram below shows the apparatus used to electrolyse aluminium oxide.



Use information in the box and your knowledge and understanding of this process to answer this question. Explain, as fully as you can, how aluminium and carbon dioxide are formed in this process.

Ions — Molten — ($Al_3^+ + 3e^- \rightarrow Al$)

The electricity is passed through the aluminium oxide. The aluminium ~~atoms~~ are attracted to the negative electrode. At the negative electrode aluminium is formed. The aluminium ions gain electrons. The oxide ions are attracted to the positive electrode. Where oxygen is formed at the positive electrode.

($O_2 - -2e^- \rightarrow O2$)

O2 reacts with carbon to make carbon dioxide ($C + O_2 \rightarrow CO_2$)