Blurt it

Step 1

Name _____ **Date** _____

1. Cover your notes and put your phone face down.
2. Set a timer for 5 minutes.
3. Write down everything you remember about chemical changes: facts, key words, equations, practicals, and mistakes to avoid. Diagrams count too.

Stuck? Start with one of these: reactivity series · neutralisation · electrolysis

When the timer ends, turn over and check what you remembered.

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Check it, fix it, space it

Steps 2, 3 and 4

Check it

Tick each idea you wrote down, even in your own words.

- [ ] Oxidation is gaining oxygen; reduction is losing oxygen
- [ ] Reactivity series: potassium, sodium, lithium, calcium, magnesium, zinc, iron, copper; a more reactive metal displaces a less reactive one
- [ ] Metals less reactive than carbon can be extracted from their oxides by reduction with carbon
- [ ] Acids react with metals to make a salt and hydrogen, with bases to make a salt and water, and with carbonates to make a salt, water and carbon dioxide
- [ ] Hydrochloric acid makes chlorides, nitric acid makes nitrates, sulfuric acid makes sulfates
- [ ] Make a soluble salt: add an insoluble solid to the acid until no more reacts, filter, then crystallise
- [ ] Acids make hydrogen ions, alkalis make hydroxide ions; pH 7 is neutral, below 7 is acidic, above 7 is alkaline
- [ ] Electrolysis: positive ions go to the cathode (negative electrode), negative ions go to the anode (positive electrode)
- [ ] Aluminium is extracted by electrolysis because it is too reactive to extract with carbon
- [ ] In solutions, hydrogen forms at the cathode if the metal is more reactive than hydrogen; oxygen forms at the anode unless halide ions are there

Higher only

- [ ] Oxidation is loss of electrons; reduction is gain of electrons
- [ ] Write ionic equations for displacement, and say what is oxidised and what is reduced, including in metal and acid reactions
- [ ] Strong acids fully ionise, weak acids only partly ionise; strong is not the same as concentrated
- [ ] Each drop of 1 on the pH scale means 10 times more hydrogen ions
- [ ] Write half equations at the electrodes: reduction at the cathode, oxidation at the anode

Key words to use: oxidation · reduction · reactivity series · displacement · extraction · salt neutralisation · pH scale · alkali · base · electrolysis · electrolyte · electrode · cathode · anode · ion

I remembered _____ out of 10. **Higher only: _____ out of 5.**

Fix it

Pick 3 ideas you missed. Look them up, then write each one correctly.

1

2

3

Space it

Blurt again on a fresh sheet. Gaps help you remember for longer.

Tomorrow

Date _____
Score _____ / 10
Higher only _____ / 5

In 3 days

Date _____
Score _____ / 10
Higher only _____ / 5

In a week

Date _____
Score _____ / 10
Higher only _____ / 5

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