Chemical changes

Answers

GCSE science knowledge recall

This topic online

Q	Answer	Remember
1	metal oxide	For example, copper heated in air turns into black copper oxide.
2	oxidation	Rusting and burning are both oxidation.
3	reduction	Taking oxygen away from a metal oxide reduces it back to the metal.
4	potassium	Potassium fizzes on water; copper does not react with water at all.
5	carbon	Hydrogen is often shown too, as a guide to reactions with acid.
6	gold	Unreactive metals do not need to be chemically extracted, just dug out.
7	ore	Whether a rock counts as an ore can change as metal prices change.
8	electrolysis	It works but uses a lot of electricity, so it is expensive.
9	loss of electrons	OIL RIG: Oxidation Is Loss, Reduction Is Gain.
10	copper ions	Each copper ion gains two electrons to become a copper atom.
11	hydrogen	Metal + acid gives a salt and hydrogen.
12	squeaky pop	The pop is the hydrogen burning quickly with oxygen to make water.
13	chloride	Hydrochloric gives chlorides, sulfuric gives sulfates, nitric gives nitrates.
14	sulfate	The sulfate ion is SO_4^{2-}.
15	carbon dioxide	That is why carbonates fizz in acid - and the gas turns limewater milky.
16	zinc sulfate	First name from the metal, second name from the acid.
17	filtration	Adding excess base makes sure all the acid is used up.
18	Warm the solution to evaporate some of the water, then leave it to cool so crystals form, and pat them dry.	Do not boil it dry - slow cooling gives bigger, neater crystals.
19	7	Below 7 is acidic, above 7 is alkaline.
20	hydrogen ion	More hydrogen ions means a lower pH.
21	hydroxide ion	In neutralisation, H^+ and OH^- join to make water.
22	fully	A weak acid only partly ionises. Strong is not the same as concentrated.

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Q	Answer	Remember
23	decreases by 1	Each step of 1 on the pH scale is a factor of 10 in hydrogen ions.
24	burette	Read it at eye level, from the bottom of the meniscus.
25	pink	It is colourless in acid, so the pink vanishes at the end point.
26	end point	Add acid drop by drop near the end point so you do not overshoot.
27	anode	Negative ions (anions) are attracted to the positive anode.
28	move	In a solid the ions are locked in place and cannot carry charge.
29	cryolite	This saves a lot of energy. The carbon anodes burn away and must be replaced.
30	hydrogen	Sodium is more reactive than hydrogen, so hydrogen is released instead of the metal.

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