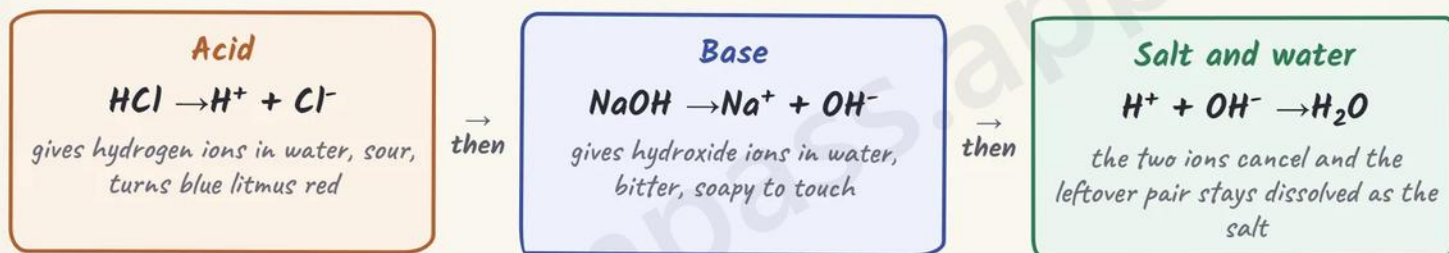


one ion decides everything: hydrogen makes an acid, hydroxide makes a base, and together they make a salt



the curve reads the chain backwards: start from the salt and water on the right and you can name the base and then the acid they came from, which is why every salt has a parent acid and a parent base

Properties of acids and bases

- an acid tastes **sour** and gives H^+ in water, a base tastes bitter, feels soapy, and gives OH^- in water
- a base that **dissolves in water** is called an alkali, so every alkali is a base but not every base is an alkali
- acids and bases conduct electricity in solution, because the **free ions** carry the charge, not the molecules
- an acid shows its acidic nature **only in water**: dry hydrogen chloride gas leaves dry litmus paper unchanged
- dilution is exothermic**, the heat comes out fast, so acid always goes into water and never water into acid

What the indicators say *

Litmus

blue litmus turns **red** in acid,
red litmus turns **blue** in base

Methyl orange

red in acid, **yellow** in base,
orange in between

Phenolphthalein

colourless in acid, **pink** in
base, the standard titration
indicator

Olfactory kinds

onion and vanilla **lose their
smell** in a base and keep it in
an acid

an indicator does not measure how strong an acid is, it only answers acid or base, and the pH scale is what puts a number on the strength

