

Key Stage 3 Precise Learning Points



Unit Number	C3
Unit Title	Chemical Reactions
Chapter	Reactions of Acids

Key Scientific Points

1. Acids and alkalis are harmful solutions that are corrosive at higher strengths.
2. pH measures the 'strength' of the acid or alkali solution. Acids have $\text{pH} < 7$, alkalis > 7 .
3. An indicator identifies different pH values. It can be an electronic sensor or a colour-changing solution. It will not affect the pH itself.
4. 'Alkali particles' react with many substances and are referred to as OH in solution. The more alkali molecules present in a fixed volume, the stronger the alkali.
5. Common alkalis are NaOH and KOH and NH_4OH .
6. 'Acid particles' react with many substances and are referred to as H in solution. The more acid molecules present in a fixed volume, the stronger the acid.
7. Common acids are HCl, HNO_3 and H_2SO_4 .
8. An equal number of 'Acid particles' (H) and 'alkali particles' (OH) bond together making water (H_2O), which has a pH of 7.
9. The strength of an acid can be determined by measuring the volume of alkali required to neutralize it.
10. Acid + Alkali \rightarrow Water + Salt
11. Acid + Oxide \rightarrow Water + Salt
12. Acid + Metal \rightarrow Salt + Hydrogen
13. Acid + Carbonate \rightarrow Salt + Water + Carbon dioxide
14. The type of salt made depends on the metal present in one compound and acid-
 - Hydrochloric makes chlorides.
 - Sulfuric makes sulfates.
 - Nitric makes nitrates.