# CC8 Acids and Alkalis

# CC8a Acids, alkalis and indicators

Step	Learning outcome	Had a look	Nearly there	Nailed it!
4 <sup>th</sup>	Describe what the main hazard symbols mean.			
5th	Describe the safety precautions that should be observed when handling different acids and alkalis.			
4 <sup>th</sup>	Name the ions present in all acidic and all alkaline solutions.			
5**	State the pH values associated with acidic, alkaline and neutral solutions.			
5**	Describe the effect of acids and alkalis on common indicators.			
5 <sup>th</sup>	Explain the link between pH and the concentration of ions in acids and alkalis.			

## CC8b Looking at acids

Step	Learning outcome	Had a look	Nearly there	Nailed it!
5 <sup>th</sup>	Describe the relationship between hydrogen ion concentration and pH.			
5**	Explain the difference between a dilute and concentrated solution (in terms of the amount of solute present).			
7	Explain the difference between strong and weak acids (in terms of the degree of dissociation of the acid molecules).			
7	Explain how the pH and reactivity of an acid depend on the concentration and the strength of the acid.			

<u>Sciences</u>

#### **CC8c Bases and salts**

Step	Learning outcome	Had a look	Nearly there	Nailed it!
5 <sup>th</sup>	Describe how a base reacts in a neutralisation reaction.			
6 <sup>th</sup>	Describe what happens when an acid reacts with a metal oxide.			
7th	Write word equations for the reactions of acids and metal oxides.			
8**	Write symbol equations for the reactions of acids and metal oxides.			
6 <sup>th</sup>	Explain what happens during a neutralisation reaction.			
6 <sup>th</sup>	Describe the steps involved in preparing a soluble salt from an acid and an insoluble reactant.			
67	Explain why: an excess of insoluble reactant is used when preparing a soluble salt the excess reactant is removed when preparing a soluble salt the remaining solution contains only a salt and water, when preparing a soluble salt from an			
	acid and an insoluble reactant.			

#### CC8d Alkalis and balancing equations

Step	Learning outcome	Had a look	Nearly there	Nailed it!
6 <sup>th</sup>	Recall the chemical formulae of some common compounds.			
6th	Recall and use state symbols.			
9 <sup>th</sup>	Balance chemical equations.			
4 <sup>th</sup>	Recall that alkalis are soluble bases.			
6 <sup>th</sup>	Describe the reactions of alkalis with acids.			

#### CC8e Alkalis and neutralisation

Step	Learning outcome	Had a look	Nearly there	Nailed it!
6 <sup>th</sup>	Explain what happens to the ions from acids and alkalis during neutralisation.			
6th	Explain why titration is used to prepare soluble salts.			
6 <sup>th</sup>	Describe how to carry out an acid–alkali titration.			

#### CC8f Reactions of acids with metals and carbonates

Step	Learning outcome	Had a look	Nearly there	Nailed it!
9th	Write balanced ionic equations.			
7 <sup>th</sup>	Explain the general reaction between an acid and a metal to produce a salt and hydrogen.			
7 th	Explain the general reaction between an acid and a metal carbonate to produce a salt, water and carbon dioxide.			
5**	Describe the test for hydrogen.			
5**	Describe the test for carbon dioxide.			

### CC8g Solubility

Step	Learning outcome	Had a look	Nearly there	Nailed it!
4 <sup>th</sup>	Recall the general rules for the solubility of common substances in water.			
6 <sup>th</sup>	Predict whether or not a precipitate will form from two solutions.			
6 <sup>th</sup>	Name the precipitate formed in a reaction.			
6 <sup>th</sup>	Describe how to prepare a pure, dry sample of an insoluble salt.			