

7F Acids and Alkalis	Knowledge, Skills and Understanding
Higher	<p>Describe the use and importance of the Hazchem code.</p> <p>Evaluate the effectiveness of different indicators.</p> <p>Use solutions of known acidity/alkalinity in order to deduce a colour chart for an indicator.</p> <p>Explain why litmus is purple in neutral solutions.</p> <p>Use information about indicator colour changes to design different indicators for different purposes.</p> <p>Apply ideas about the pH scale to explain the changes that take place on neutralisation and dilution.</p> <p>Plot and interpret graphs of pH against volume of acid or alkali added in a neutralisation reaction.</p> <p>Describe how to produce a solution that is only a salt and water using the reaction between an acid and an alkali or insoluble base.</p>
Intermediate	<p>Describe the difference between substances that are corrosive or irritants.</p> <p>Describe how to reduce the risk from acids by dilution.</p> <p>State the meaning of hazard.</p> <p>Describe the use of universal indicator and pH meters to determine the pH of a solution.</p> <p>Describe solutions as being more or less acidic/alkaline by comparing their pHs.</p> <p>Model simple reactions using word equations.</p> <p>Describe the reactions of acids with alkalis (including the salts produced by hydrochloric, sulfuric and nitric acids).</p> <p>Explain how everyday examples of neutralisation are useful (changing the pH of soils).</p> <p>Describe the reactions of acids with bases.</p> <p>Explain how everyday examples of neutralisation are useful (antacids, toothpastes, treating waste gases, rust removal).</p>
Foundation	<p>Recall examples of everyday substances that are acids.</p> <p>Recall the purpose of hazard symbols.</p> <p>Recognise the hazard symbols for: dangerous to the environment, corrosive, toxic, explosive, flammable, caution.</p> <p>Recognise common hazards when in the lab and suggest ways of ensuring they do not cause harm.</p> <p>Recall examples of everyday substances that are alkalis.</p> <p>Recall the colour changes associated with litmus indicator.</p> <p>Describe how indicators are used to distinguish between acidic, alkaline and neutral solutions.</p> <p>Describe how universal indicator is used to distinguish between acidic, alkaline and neutral solutions.</p> <p>Describe the main features of the pH scale (numbered scale that shows how acidic or alkaline a solution is, with solutions below pH 7 being acidic, those above pH 7 being alkaline and those at pH 7 being neutral).</p> <p>Recall that acids react with alkalis and this is called neutralisation.</p> <p>Explain how chemical reactions are different to physical changes.</p> <p>Interpret a word equation to identify the products and reactants in a chemical reaction.</p> <p>Recall some applications of neutralisation (changing the pH of soils).</p> <p>Supply missing reactants or products to complete a word equation.</p> <p>Correctly use the term: base.</p> <p>Recall some applications of neutralisation (changing the pH of soils), rust removal).</p>