



# Year 8: Chemical World- Chemical Change

	Check	Date
<b>Revise assumed knowledge:</b> <b>ST3-12MW</b> identifies the observable properties of solids, liquids and gases, and that changes made to materials are reversible or irreversible	<input type="checkbox"/>	
<b>ST3-13MW</b> describes how the properties of materials determine their use for specific purposes		
<b>CW4 In a chemical change, new substances are formed, which may have specific properties related to their uses in everyday life.</b>		
<b>PHYSICAL AND CHEMICAL CHANGE</b>		
<b><i>4CW4d. compare physical and chemical changes in terms of the arrangement of particles and reversibility of the process</i></b>	<input type="checkbox"/>	
<b>Recall</b> the particle theory	<input type="checkbox"/>	
<b>Define</b> physical change, chemical change, matter, particles	<input type="checkbox"/>	
<b>Describe</b> physical and chemical changes in terms of: arrangement of particles, reversibility, conservation of mass and energy changes	<input type="checkbox"/>	
<b>CODE: 8CW20 First-hand Investigation:</b> Exploring physical changes (Oxford pg208)	<input type="checkbox"/>	
<b><i>4CW4a. identify when a chemical change is taking place by observing a change in temperature, the appearance of new substances or the disappearance of an original substance</i></b>	<input type="checkbox"/>	
<b><i>4CW4b. demonstrate that a chemical change involves substances reacting to form new substances (ACSSU225)</i></b>	<input type="checkbox"/>	
<b>Outline</b> the law of conservation of matter	<input type="checkbox"/>	
<b>Identify</b> the 5 signs of a chemical change (gas produced, energy release in form of light given off, energy in the form of heat absorbed or produced, a permanent colour change, a precipitate is formed)	<input type="checkbox"/>	
<b>Identify</b> that chemical changes occur when substances react to form new substances	<input type="checkbox"/>	
<b>CODE: 8CW21 First-hand Investigation:</b> Chemical reaction- colour change	<input type="checkbox"/>	
<b>CODE: 8CW22 First-hand Investigation:</b> Investigating the rate of rusting	<input type="checkbox"/>	
<b>CODE: 8CW23 First-hand Investigation:</b> Chemical reaction- Light production	<input type="checkbox"/>	
<b>CODE: 8CW24 First-hand Investigation:</b> Chemical reaction- precipitate and colour change	<input type="checkbox"/>	
<b>CODE: 8CW25 First-hand Investigation:</b> Chemical reaction- gas produced and energy produced	<input type="checkbox"/>	
<b>CODE: 8CW26 First-hand Investigation:</b> Chemical reaction- gas produced and energy absorbed	<input type="checkbox"/>	
<b>CODE: 8CW27 First-hand Investigation:</b> Chemical reaction- Energy produced	<input type="checkbox"/>	
<b>LITERACY SET 1: COSMOS ARTICLE</b>		
<b>Assessment: Oxford online test-</b> Physical and chemical change reactions Students to achieve 100% in Support and Consolidate <b>OR</b> Consolidate and Extend	<input type="checkbox"/>	
<b>COMMON CHEMICAL REACTIONS</b>		
<b><i>4CW4c. investigate some examples of chemical change that occur in everyday life, e.g. photosynthesis, respiration and chemical weathering</i></b>	<input type="checkbox"/>	
<b>Define</b> photosynthesis, respiration, fermentation, decomposition	<input type="checkbox"/>	
<b>Identify</b> some everyday situations where chemical reactions take place (cooking and in nature)		
<b>Explain</b> the use of baking soda in cooking (Oxford pg222)	<input type="checkbox"/>	
<b>CODE: 8CW28 First-hand Investigation:</b> Heating baking soda (Oxford pg223)	<input type="checkbox"/>	
<b>Explain</b> the use of fermentation (Oxford pg223)	<input type="checkbox"/>	
<b>CODE: 8CW29 First-hand Investigation:</b> Role of yeast (Oxford pg224)	<input type="checkbox"/>	

<b>Identify</b> the word equation for photosynthesis	<input type="checkbox"/>	
<b>Describe</b> the process of photosynthesis	<input type="checkbox"/>	
<b>CODE: 8CW30 First-hand Investigation:</b> Role of sunlight in photosynthesis	<input type="checkbox"/>	
<b>Identify</b> the word equation for respiration	<input type="checkbox"/>	
<b>Describe</b> the process of respiration	<input type="checkbox"/>	
<b>CODE: 8CW31 First-hand Investigation:</b> Identifying the products of respiration	<input type="checkbox"/>	
<b>Describe</b> the process of weathering	<input type="checkbox"/>	
<b>Distinguish</b> between chemical and physical weathering	<input type="checkbox"/>	
<b>Explain</b> oxidation and its effect on the landscape e.g. Bungle bungles, Uluru	<input type="checkbox"/>	
<b>CODE: 8CW32 First-hand Investigation:</b> Acid + Calcium Carbonate <b>(stage 4 level)</b>	<input type="checkbox"/>	
<b>LITERACY SET 2: MIXED ACTIVITIES</b>	<input type="checkbox"/>	
<b>Assessment: Oxford online test-</b> Common chemical reactions Students to achieve 100% in Support and Consolidate <b>OR</b> Consolidate and Extend	<input type="checkbox"/>	
<b>CHEMISTRY IN INDUSTRY</b>		
<b>4CW4e. propose reasons why society should support scientific research, e.g. in the development of new pharmaceuticals and polymers</b> 	<input type="checkbox"/>	
<b>Define</b> pharmaceuticals and polymers	<input type="checkbox"/>	
<b>Describe</b> pharmaceuticals as the study of three branches of science: biology, pathology, chemistry	<input type="checkbox"/>	
<b>Describe</b> the link between traditional medicines and pharmaceuticals (active ingredients)	<input type="checkbox"/>	
<b>Research and Propose</b> reasons why society should support scientific research in the development of new pharmaceuticals and polymers. Considerations: Discovery of penicillin, Antibiotic resistant strains of bacteria, New medicine developments, Vaccination development etc.	<input type="checkbox"/>	
<b>Distinguish</b> between man-made (synthetic) and natural polymers, using examples	<input type="checkbox"/>	
<b>Describe</b> the physical properties of polymers	<input type="checkbox"/>	
<b>Describe</b> how different polymers are created (petrochemicals) e.g. plastics, fabrics (polyester)	<input type="checkbox"/>	
<b>Describe</b> how petrochemicals are involved in the development of new polymers with a focus on Australian usage	<input type="checkbox"/>	
<b>CODE: 8CW33 First-hand Investigation:</b> Making plastics from potatoes (Oxford pg239)	<input type="checkbox"/>	
<b>4CW4f. describe, using examples, how science knowledge can develop through collaboration and connecting ideas across the disciplines of science, e.g. making or obtaining new substances from Earth's spheres (ACSHE223, ACSHE226)</b> 	<input type="checkbox"/>	
<b>Describe</b> how knowledge of the location and extraction of mineral resources relies on expertise from multiple disciplines of science i.e. geology, applying theory and techniques from <u>physics</u> , <u>chemistry</u> , and <u>biology</u>	<input type="checkbox"/>	
<b>Describe</b> how science knowledge of different disciplines of science has allowed metals such as aluminium and iron to be extracted from their compounds (Lithosphere)	<input type="checkbox"/>	
<b>Describe</b> how science knowledge of different disciplines of science has allowed pure oxygen to be extracted from air in order to be used in hospitals (Atmosphere)	<input type="checkbox"/>	
<b>Describe</b> how science knowledge of different disciplines of science has allowed for the development of dyes used in textiles, design and printing (Oxford pg250) (Hydrosphere/Biosphere)	<input type="checkbox"/>	
<b>NUMERACY AND SKILLS SET</b>	<input type="checkbox"/>	
<b>Assessment: Oxford online test-</b> Chemistry in Industry reactions Students to achieve 100% in Support and Consolidate <b>OR</b> Consolidate and Extend	<input type="checkbox"/>	
<b>Assessment:</b> CHEMICAL CHANGES CHAPTER TEST	<input type="checkbox"/>	