

Term 3

Chemical Sciences				
Week	Content	Aus Curriculum	Laboratory/Theory	Assessment/book ref
1	What is an element? <ul style="list-style-type: none"> • Display elements in periodic table • Name first 20 elements Particle model <ul style="list-style-type: none"> • Kinetic Theory • Thermal Expansion and Contraction • Solid, Liquid and Gas in terms of particle model 	Differences between elements, compounds and mixtures, described at a particle level The properties of solids, liquids and gases in terms of the motion and arrangement of particles	<ul style="list-style-type: none"> • Thermal expansion experiment using bimetal strips, bar and gauge and ball and chain – revise using a Bunsen burner • PS page 212, A model thermometer 	Pearson Science (PS) Chapt 7.1 PS Chapt 6.1
2	Physical Properties of Solids, Liquids and Gases <ul style="list-style-type: none"> • Shape (by itself and in container) • Compressibility • Particle movement in each state • Force of attraction between particles Changes of States <ul style="list-style-type: none"> • Melting • Evaporation • Condensation • Freezing • Sublimation and Deposition 	The properties of solids, liquids and gases in terms of the motion and arrangement of particles	<ul style="list-style-type: none"> • PS page 219, Expansion and Heat (observe how gas expands) • Gas compressing in a air tube showing compressibility of gases and inability to compress water. • Hot water/cold water particle movement using colour. • Separation of water (forces of attraction). • Particle movement dance activity 	PS Chapt 6.1, 6.2
3	Physical Properties <ul style="list-style-type: none"> • Mass • Volume • Density Chemical Change <ul style="list-style-type: none"> • Colour change • Bubbling / smelling gas • Seeing a new solid (precipitate) • Heat or light produced or absorbed Chemical change vs Physical change	Chemical change involves substances reacting to form new substances The properties of solids, liquids and gases in terms of the motion and arrangement of particles	<ul style="list-style-type: none"> • PS page 213, Observing chemical reactions (Footy colours) • PS page 213, Making Recycled Paper • PS page 228, Density Tower and Density of an irregular shape • PS page 255, measuring density 	PS Chapt 6.3, 6.1
4	Chemical Reactions <ul style="list-style-type: none"> • Atom – simplest of particles • Molecule – clusters of atoms 	Differences between elements, compounds and mixtures can be described at a particle level	<ul style="list-style-type: none"> • PS page 241, A precipitation reaction • Pop test 	PS Chapt 6.4 , 7.4

	<ul style="list-style-type: none"> • 5 Principles of Dalton's atomic theory (PS p231) • Atomic number and mass number • Subatomic particles – protons, neutrons, electrons • Chemical reaction – what are reactants, what are products • Representing chemical reactions – word equations and formula equations 			
5	<p>Mixture</p> <ul style="list-style-type: none"> • What is a mixture? • How can you tell it is a mixture? • 2 or more elements but can still separate them easily enough <p>Compounds</p> <ul style="list-style-type: none"> • What is a compound? • 2 or more elements combined together to make a brand new substance <p>Separation Techniques (Use/ method/ advantage and disadvantage)</p> <ul style="list-style-type: none"> • Decantation 	<p>Differences between elements, compounds and mixtures can be described at a particle level</p> <p>Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (year 7)</p>	<ul style="list-style-type: none"> • H₂O₂ Decomposition (chemical reaction) • Decantation of 2 liquids and a solid and a liquid • Video- Atoms video • Group work making posters (A3 posters work from book) 	PS 7.1-7.4 SA Book1 p250-252
6	<p>Separation Techniques (Use/ method/ advantage and disadvantage)</p> <ul style="list-style-type: none"> • Filtration • Evaporation <p>Solutes, solubility, insolubility, solvents, solutions</p> <p>Chemical and physical properties Element, compound, mixture Balancing chemical equations</p>	<p>Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (year 7)</p>	<ul style="list-style-type: none"> • Filtration – water and sand • Evaporation – water and salt • Comparing Iron and Sulfur mixture with Iron Sulfide • Separate Iron from Sulfur using magnets • Revision worksheet • Balancing equations worksheet/ homework 	PS 7.1-7.4
7	<p>Catch up and Revision</p> <ul style="list-style-type: none"> • Elements, compound, atoms, mixtures • Separation techniques (decantation, filtration, evaporation) • Physical reactions, Chemical reactions • Sub atomic particles and atomic numbers • Writing chemical equations 		<ul style="list-style-type: none"> • Notes handout • Run through of major concepts. • Practical test = separation of CuSO₄, iron filings, sand using magnet, filtration, 	Chemistry Test – 15% Practical – Separation Test – 10%

	<ul style="list-style-type: none"> • Particle theory, kinetic theory • Thermal expansion/contraction 		evaporation.	
Physical Sciences				
8	Energy <ul style="list-style-type: none"> • What is energy? • Unit for energy • What does energy do? • What is Work? – given to the effects of using energy • Forms of energy 	Energy appear in different forms including movement, heat and potential energy and causes change within the system	<ul style="list-style-type: none"> • PS page 178 , Energy makes things happen • PS page 177, Spinning Snake 	
9	Energy Change <ul style="list-style-type: none"> • Conservation of Energy • 1st Law of Thermodynamics • Energy transfers from one form to another • Energy Flow diagram 	Energy appear in different forms including movement, heat and potential energy and causes change within the system	<ul style="list-style-type: none"> • PS page 188, Energy Change • Balloon rocket 	
10	Kinetic Energy <ul style="list-style-type: none"> • Moving Energy • $E = 0.5 m v^2$ Potential Energy <ul style="list-style-type: none"> • $E = m g h$ • Stored Energy • Gravitational potential energy • Elastic potential 	Energy appear in different forms including movement, heat and potential energy and causes change within the system	<ul style="list-style-type: none"> • Water bottle rockets • Real rocket launch 	

Term 3 Science Assessment Outline

Assessment	My Mark	Weighting of Semester 2
Separation Prac test		10%
Chemistry Test		15%
In class – homework, class participation etc		10%
Total		100%