

Week	2018-2019	Year 9	9a3 + 9b3	Lesson title	Practicals
1	03/09/2018	<b>C1 States of matter</b>	CC1a: States of matter * CC1a: States of matter *	Teacher demonstration of sublimation and deposition of iodine.	
		<b>C2 Methods of separating and purifying substances</b>	CC2a: Mixtures CC2a: Mixtures CC2b: Filtration and crystallisation CC2b: Filtration and crystallisation	Demonstrate the difference between the way pure and impure samples of a solid melt. Demonstrate how to heat to dryness safely.	
			CC2c: Paper chromatography CC2c: Paper chromatography CC2d: Distillation	<b>C2.11: Core Practical: Investigate the composition of inks using simple distillation and paper chromatography</b> <b>C2.11: Core practical: Investigate the composition of inks using simple distillation and paper chromatography</b>	
3	17/09/2018		CC2d: Distillation CC2e: Drinking water CC2e: Drinking water Revision <b>End of unit test</b>	Demonstrate the fractional distillation process using a Liebig condenser and an ethanol/water mixture. Demonstrate a simple solar still	
		<b>P1 Motion</b>	CP1a: Vectors and scalars CP1a: Vectors and scalars CP1b: Distance/time graphs * CP1b: Distance/time graphs *		
5	01/10/2018		CP1c: Acceleration * CP1c: Acceleration * CP1d: Velocity/time graphs * CP1d: Velocity/time graphs * Revision <b>End of unit test</b>	Suggested practical: Investigate the acceleration, g, in free fall and the magnitudes of everyday accelerations.	
		<b>P2 Forces and motion</b>	CP2a: Resultant forces CP2a: Resultant forces CP2b: Newton's First Law CP2b: Newton's First Law CP2c: Mass and weight CP2c: Mass and weight CP2d: Newton's Second Law CP2d: Newton's Second Law CP2e: Newton's Third Law CP2e: Newton's Third Law <b>CP2f: Momentum</b>	Suggested practical: Demonstrate that horizontal and vertical forces on an object can be discussed independently of each other. Suggested practical: Use an air track to demonstrate the effects of friction on moving objects. Suggested practical: Investigate the relationship between mass and weight. <b>P2.19: Core Practical: Investigate the relationship between force, mass and acceleration by varying the masses added to trolleys.</b>	
oct half term			<b>CP2f: Momentum</b> CP2g: Stopping distances CP2g: Stopping distances CP2h: Crash hazards CP2h: Crash hazards Revision <b>End of unit test</b>	Suggested practical: Investigate conservation of momentum during collisions. Suggested practical: Investigate inelastic collisions with the two objects remaining together after the collision and also 'near' elastic collisions. Suggested practical: Investigate how crumple zones can be used to reduce the forces in collisions.	
9	05/11/2018		CP2h: Crash hazards CP2h: Crash hazards Revision <b>End of unit test</b>		
Parents evening		<b>B1 Overarching concepts in Biology</b>	CB1a: Microscopes CB1a: Microscopes CB1b: Plant and animal cells CB1b: Plant and animal cells CB1c: Specialised cells CB1c: Specialised cells CB1d: Inside bacteria CB1d: Inside bacteria CB1e: Inside bacteria CB1e: Enzymes and nutrition CB1e: Enzymes and nutrition CB1f: Enzyme action CB1f: Enzyme action CB1g: Enzyme activity CB1g: Enzyme activity CB1h: Transporting substances CB1h: Transporting substances CB1i: Transporting substances Revision <b>End of unit test</b>	Students use microscopes to examine pre-prepared slides of small objects (e.g. hair, pollen). (See Exploring.) <b>*B1.6: Core Practical: Investigate biological specimens using microscopes, including magnification calculations and labelled scientific drawings from observations</b> Suggested practical: Investigate plant and animal cells with a light microscope. Students use a microscope to examine live yoghurt cultures to look for bacteria. <b>3 LESSONS RSE DROP DOWN W/C 26/11/18</b> Suggested practical: Investigate the effect of different concentrations of digestive enzymes, using and evaluating models of the alimentary canal. Suggested practical: Investigate the effect of temperatures and concentration on enzyme activity. <b>B1.10: Core Practical: Investigate the effect of pH on enzyme activity</b> <b>B1.16: Core practical: Investigate osmosis in potatoes</b> Suggested practical: Investigate the effect of different concentrations of digestive enzymes, using and evaluating models of the alimentary canal	
13	03/12/2018		CB1i: Transporting substances Revision <b>End of unit test</b>		
		<b>C3 Atomic structure</b>	CC3a: Structure of an atom * CC3a: Structure of an atom * CC3b: Atomic mass and number * CC3b: Atomic mass and number * CC3c: Isotopes * CC3c: Isotopes *		
15	17/12/2018		CC3d: Elements and the periodic table * CC3d: Elements and the periodic table *		
16	07/01/2019	<b>C4 The periodic table</b>	CC4a: Elements and the periodic table * CC4a: Elements and the periodic table *	Show samples of lithium, potassium, sodium, chlorine, iodine, bromine.	
		<b>C5 Ionic bonding</b>	CC5a: Ionic bonds CC5a: Ionic bonds CC5b: Ionic lattices CC5b: Ionic lattices CC5c: Properties of ionic compounds CC5c: Properties of ionic compounds	Demonstration to compare the reactions of calcium and magnesium with those of aluminium and sulfur, to illustrate group properties and changes across a period CC4b: Atomic number and the periodic table CC4b: Atomic number and the periodic table CC4c: Electronic configurations and the periodic table CC4c: Electronic configurations and the periodic table Revision <b>End of unit test</b>	
17	14/01/2019		CC5d: Properties of ionic compounds CC5d: Properties of ionic compounds	that sodium chloride solution does. Suggested practical: Investigate the typical properties of simple and giant covalent compounds and ionic	

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19	28/01/2018	<b>C6 Covalent bonding</b>	CC6a: Covalent bonding CC6a: Covalent bonding		
		<b>C7 Types of substance</b>	CC7a: Molecular compounds CC7a: Molecular compounds CC7b: Allotropes of carbon CC7b: Allotropes of carbon	Investigate the typical properties of simple and giant covalent compounds and ionic compounds. Investigate the typical properties of simple and giant covalent compounds and ionic compounds	
			CC7c: Properties of metals CC7c: Properties of metals CC7d: Bonding models	Demonstrate the difference in melting points and electrical conductivity for one metal and one non-metal. Investigate the properties of a metal, such as electrical conductivity	
21	11/02/2019		CC7d: Bonding models Revision <b>End of unit test</b>	Classify different types of elements and compounds by investigating their melting points and boiling points, solubility in water and electrical conductivity (as solids and in solution) including sodium chloride, magnesium sulphate, hexane, liquid paraffin, silicon(IV) oxide, copper sulphate, and sucrose (sugar).	
feb half term		<b>P3 Conservation of energy</b>	CP3a: Energy stores and transfers CP3a: Energy stores and transfers CP3b: Energy efficiency CP3b: Energy efficiency	Suggested practical: Investigate conservation of energy.	
23	04/03/2019		CP3c: Keeping warm CP3c: Keeping warm CP3d: Stored energies CP3d: Stored energies CP3e: Non-renewable resources CP3e: Non-renewable resources CP3f: Renewable resources CP3f: Renewable resources	Demonstrations of energy transfer processes. Demonstrate how energy from fuel is transferred into motion using a steam engine.	
25	18/03/2019		Revision <b>End of unit test</b>		
		<b>B2 Cells and control</b>	CB2a: Mitosis CB2a: Mitosis CB2b: Growth in animals CB2b: Growth in animals CB2c: Growth in plants CB2c: Growth in plants CB2d: Stem cells CB2d: Stem cells		
27	01/04/2019		CB2e: The nervous system CB2e: The nervous system CB2f: Neurotransmission speeds CB2f: Neurotransmission speeds	Suggested practical: Investigate human responses to external stimuli. Suggested practical: Investigate reaction times	
easter			Revision <b>End of unit test</b>	Suggested practical: Investigate the speed of transmission of electrical impulses in the nervous system	
		<b>B3 Genetics</b>	CB3a: Meiosis CB3a: Meiosis CB3b: DNA CB3b: DNA CB3c: Alleles CB3c: Alleles CB3d: Inheritance CB3d: Inheritance CB3e: Gene mutations CB3e: Gene mutations CB3f: Variation CB3f: Variation	Suggested practical: Investigate inheritance using suitable organisms or models Suggested practical: Investigate the variations within a species to illustrate continuous variation and discontinuous variation.	
29	29/04/2019		Revision <b>End of unit test</b>		
31	31/05/2019		CP4a: Describing waves CP4a: Describing waves CP4b: Wave velocity CP4b: Wave velocity CP4c: Refraction CP4c: Refraction CP4d: Refraction	<b>P4.17: Core Practical: Investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid</b> Suggested practical: Investigate models to show refraction, such as toy cars travelling into a region of sand.	
may half term		<b>P5 Light and the electromagnetic spectrum</b>	CP5a: Electromagnetic waves CP5a: Electromagnetic waves CP5b: The electromagnetic spectrum CP5b: The electromagnetic spectrum CP5c: Using the long wavelengths CP5c: Using the long wavelengths CP5d: Using the short wavelengths CP5d: Using the short wavelengths	<b>P5.9: Core practical: Investigate refraction in rectangular glass blocks in terms of the interaction of electromagnetic waves with matter</b> Suggested practical: Construct a simple spectrometer, from a CD or DVD, and use it to analyse common light sources. Suggested practical: Investigate the areas beyond the visible spectrum, such as the work of Herschel and Ritter in discovering IR and UV respectively.	
33	03/06/2019		CP5e: EM radiation dangers CP5e: EM radiation dangers Revision <b>End of unit test</b>		
35	17/06/2019		Revision Revision Revision Revision Revision Revision Revision Revision		
37	01/07/2019		<b>End of year 9 exam</b> core prac review core prac review Review of year 9 exam core prac review core prac review core prac review core prac review core prac review core prac review core prac review		
39	15/07/2019		core prac review core prac review core prac review core prac review core prac review core prac review core prac review core prac review		