Subject:	Science		<u>Timings</u>	NB: 30 mins per week spent on FR and respond	ling to feedback		
SoW Title:	Fundamental I	ouilding blocks	Lesson 1 (60)	NB: data expectations - 100% scores tracked ea	ch week, MCA/E	OC marked and QLA	to discuss with LM
Year	2018/19		Lesson 2 (90)	NB: feedback expectations - mark one exam Q	oer week, pupils	have time in lessons	s to respond
Date:	Cycle 1			·	1		
	-,						
Week	Lesson	Title	Objective	Key Knowledge/Content	Assessment and Showcase Pieces (minimum grade 6)	Mastery tasks	Links to resources e.g. 100% Sheets
		Atoms, elements and compounds	Identify elements, compounds and mixtures from chemical symbols and particle diagrams	Define atom, element, compound, molecule Give examples of each Draw labelled particle diagrams to represent e,c,m Idetify elements, compounds and mixtures		Learn topic 1 from	Link to 100% sheet: T:\NEW T DRIVE\PUPIL LEARNING\Secondary Science\Memrise (Knowledge Organisers)\Phase 3 (2018-19)
	1	Chemical and physical reactions	Classify chemical changes as chemical reactions or physical changes	Define chemical/ physical reactions Give examples of chemical/ physical reactions Classify changes	ET (TA with fee 100% sheet	cycle 1 100% sheet	
	2	States of matter	Use particle diagrams to explain the properties of solids, liquids and gasses	Draw particle diagrams, State properties of s.l.g Describe the arrangement of particles Explain properties		Learn topic 2 from cycle 1 100% sheet	
		Mixtures 2	Explain the role of componants in real world formulations	Define mixture and formulation, pure and impure Describe bonding in a mixture Give examples of formulations	ET (TA with fee 100% sheet	*	
	3	Separation (part 1)	Describe methods used to separate mixtures	CPAC 1 - following a method Name 4 separation techniques Describe the use of each technique		Learn topic 3 from	
		2 Separation (part 2) 1 Recap	Use particle diagrams to show how particles can be separated.  Plan as appropriate	Draw labelled particle diagrams, Describe the role of each separation technique	ET (TA with fee 100% sheet	cycle 1 100% sheet	
	4	Heating particles	Explain what happens to particles when a substance is heated	Draw particle diagrams, Describe the movement of particles in s,l,g Explain the effect of heating	ET (TA with fee 100% sheet	Learn topic 4 from cycle 1 100% sheet	
	5	Expansion/ contraction	Explain what happens to particles when pressure is applied	Draw particle diagrams, Describe the movement of particles in s,l,g Define gas pressure and describe its origin		Review topics 1-4 from cycle 1 100%	
	ŭ	Phase changes	Explain what happens to particles during phase changes	Name phase changes, Draw temperature/ energy graphs and label Explain what happens to particle during phase char	ET (TA with fee	sheet '	
		1 Recap	Plan as appropriate				
	6	Plant and animal cells	Compare and contrast animal and plant cells	State the organelles found in animal/ plant cells Describe the role of organelles Compare animal and plant cells (opportunity for ext	e MCA - topic 1-4	Learn topic 5 from cycle 1 100% sheet	
	7	Specialised cells	Describe the adaptations of specialised plant and animal cells	Name examples of specialised cells Identify adaptations of specialised cells Explain how adaptations help the cell to fulfil its role	e	Learn topic 6 from	
		2 Diffusion (part 1)	Use particle diagrams to represent diffusion	State what is meant by diffusion Describe the movement of particles in dffusion	ET (TA with fee 100% sheet	cycle 1 100% sheet	
	8	Diffusion (part 2)	Explain the role of diffusion within the human body	State where diffusion occurs in the body Describe the movement of particles between cells Explain the role of diffusion in the body		Learn topic 7 from cycle 1 100% sheet	
		2 Recap	Plan as appropriate		ET (TA with fee 100% sheet	<mark>d</mark> .,	
	9	Levels of organisation	Explain the heirachy of organisation in multicellular organisms	Define cell, tissue, organ, organ system and organism State examples of cells, tissues, organs, organ systems and organisms Explain the heirarchy of organisation in multicellular organisms		Learn topic 8 from cycle 1 100% sheet	
		Digestive system	Explain the role of organs in the digestive system	Name organs in the digestive system, State the role of organs in the digestive system Describe adaptations pertinant to the role	ET (TA with fee	d	
	10	Circulatory system	Explain the role of organs in the circulatory system	Name the components of the circulatory system, State the role of each component in the circulatory Describe adaptations pertinant to the roles	system	Review topics 1-8 from cycle 1 100%	
		Musculo-skeletal system 2	Explain the function of the skeleton and describe how muslces help us to move	Describe the structure of the skeleton Describe the functions of the skeletal system Explain how antaganistic muscles cause movemen	ET (TA with fee 100% sheet	sheet	
	11	1 Revision					
		2 Assessment			EOC - topic 1-8	C	
	12	1 Re-teach					
		2 Re-teach					
	13	1 Project				Redraft questions	

2 Project from assessment

Subject:	Science		<u>Timings</u>	NB: 30 mins per week spent on FR and respond	ling to feedback		
SoW Title:	Fundamental I	ouilding blocks	Lesson 1 (90)	NB: data expectations - 100% scores tracked ea	ich week, MCA/E	OC marked and QLA	to discuss with LM
Year	2018/19		Lesson 2 (90)	NB: feedback expectations - mark one exam Q p	per week, pupils	have time in lessons	s to respond
Date:	Cycle 1						
	-,						
Week	Lesson	Title	Objective	Key Knowledge/Content	Assessment and Showcase Pieces (minimum grade 6)	Mastery tasks	Links to resources e.g. 100% Sheets
		Atoms, elements and compounds	Identify elements, compounds and mixtures from chemical symbols and particle diagrams	Define atom, element, compound, molecule Give examples of each Draw labelled particle diagrams to represent e,c,m Idetify elements, compounds and mixtures		Learn topic 1 from	Link to 100% sheet: T:\NEW T DRIVE\PUPIL LEARNING\Secondary Science\Memrise (Knowledge Organisers)\Phase 3 (2018-19)
	1	Chemical and physical reactions	Classify chemical changes as chemical reactions or physical changes	Define chemical/ physical reactions Give examples of chemical/ physical reactions Classify changes	ET (TA with fee	cycle 1 100% sheet	
	2	States of matter	Use particle diagrams to explain the properties of solids, liquids and gasses	Draw particle diagrams, State properties of s.l.g Describe the arrangement of particles Explain properties		Learn topic 2 from	
		Mixtures 2	Explain the role of componants in real world formulations	Define mixture and formulation, pure and impure Describe bonding in a mixture Give examples of formulations	ET (TA with fee 100% sheet	cycle 1 100% sheet	
	3	Separation (part 1)	Describe methods used to separate mixtures	CPAC 1 - following a method Name 4 separation techniques Describe the use of each technique		Learn topic 3 from cycle 1 100% sheet	
		2 Separation (part 2) 1 Recap	Use particle diagrams to show how particles can be separated.  Plan as appropriate	Draw labelled particle diagrams, Describe the role of each separation technique	ET (TA with fee 100% sheet	d Grace 1 100 % silect	
	4	Heating particles	Explain what happens to particles when a substance is heated	Draw particle diagrams, Describe the movement of particles in s,l,g Explain the effect of heating	ET (TA with fee 100% sheet	Learn topic 4 from cycle 1 100% sheet	
	5	Expansion/ contraction	Explain what happens to particles when pressure is applied	Draw particle diagrams, Describe the movement of particles in s,l,g Define gas pressure and describe its origin		Review topics 1-4 from cycle 1 100%	
		Phase changes	Explain what happens to particles during phase changes	Name phase changes, Draw temperature/ energy graphs and label Explain what happens to particle during phase char	ET (TA with fee	sheet '	
		1 Recap	Plan as appropriate				
	6	Plant and animal cells	Compare and contrast animal and plant cells	State the organelles found in animal/ plant cells Describe the role of organelles Compare animal and plant cells (opportunity for ext	te MCA - topic 1-4	Learn topic 5 from cycle 1 100% sheet	
	7	Specialised cells	Describe the adaptations of specialised plant and animal cells	Name examples of specialised cells Identify adaptations of specialised cells Explain how adaptations help the cell to fulfil its role	е	Learn topic 6 from	
		2 Diffusion (part 1)	Use particle diagrams to represent diffusion	State what is meant by diffusion Describe the movement of particles in dffusion	ET (TA with fee 100% sheet	cycle 1 100% sheet	
	8	Diffusion (part 2)	Explain the role of diffusion within the human body	State where diffusion occurs in the body Describe the movement of particles between cells Explain the role of diffusion in the body		Learn topic 7 from cycle 1 100% sheet	
		2 Recap	Plan as appropriate		ET (TA with fee 100% sheet	d of the contract	
	9	Levels of organisation	Explain the heirachy of organisation in multicellular organisms	Define cell, tissue, organ, organ system and organism State examples of cells, tissues, organs, organ systems and organisms Explain the heirarchy of organisation in multicellular organisms		Learn topic 8 from cycle 1 100% sheet	
		Digestive system	Explain the role of organs in the digestive system	Name organs in the digestive system, State the role of organs in the digestive system Describe adaptations pertinant to the role	ET (TA with fee	d	
	10	Circulatory system	Explain the role of organs in the circulatory system	Name the components of the circulatory system, State the role of each component in the circulatory Describe adaptations pertinant to the roles	system	Review topics 1-8 from cycle 1 100%	
		Musculo-skeletal system 2	Explain the function of the skeleton and describe how muslces help us to move	Describe the structure of the skeleton Describe the functions of the skeletal system Explain how antaganistic muscles cause movement	ET (TA with fee	sheet	
	11	1 Revision					
		2 Assessment			EOC - topic 1-8	C	
	12	1 Re-teach					
		2 Re-teach					
	13	1 Project				Redraft questions	

2 Project from assessment

Subject:	Science		<u>Timings</u>	NB: 30 mins per week sper	nt on FR and res	onding to feed	oack		
SoW Title:	Yr 8 C1		Lesson 1 (90)	NB: data expectations - 10	0% scores tracke	ed each week, M	CA/EOC marked	and QLA to disc	uss with LM
Year	2018		Lesson 2 (90)	NB: feedback expectations	s - mark one exar	n Q per week, pu	ipils have time ii	n lessons to resp	ond
Date:	25/07/2018								
Week	Lesson	Title	Objective	Key Knowledge/Content	Assessment and Showcase Pieces (minimum grade 6)	Mastery tasks	Links to resou	rces e.g. 100% St	neets
	1	Separation	Describe methods used to separate mixtures (distillation, filtration, evaporation, magnets?)	CPAC 1 - following a method Name 4 separation technique Describe the use of each technique	es	Learn topic 1 from cycle 1			
	1 2	Separation (appl	Use particle diagrams to show how particles can be separated.	Draw labelled particle diagra Describe the role of each se Choose themost appropriate	p ET (TA with feed	100% sheet			
	1	Heating particles	Explain what happens to particles when a substance is heated	Draw particle diagrams, Describe the movement of particles of heating	articles in s,l,g	Learn topic 2 from cycle 1			
	2 2	Contaction and e	Explain what happens to particles when pressure is applied	Draw particle diagrams, Describe the movement of particle gas pressure and des	s 100% sheet	100% sheet			
	1	Gas pressure	Explain how gas pressure increas		ner size on gas pr now how gas press	Learn topic 3 from cycle 1			
	3 2	Diffusion - what a	Use particle diagrams to represent diffusion	State what is meant by diffus Describe the movement of page 2	s ET (TA with feed a 100% sheet	100% sheet			
	1	Diffusion - applic	Explain the role of diffusion within the human body	State where diffusion occurs Describe the movement of particle of diffusion in	articles between on the body	from cycle 1			
		Recap	Plan as appropriate		ET (TA with feed 100% sheet	100% sheet			
	1	Circulatory Syste	Explain the role of organs in the circulatory system	Name the components of the State the role of each components beach components adaptations pertinated by the state of the s	onent in the circula				
	5 2	Digestive System	Explain the role of organs in the digestive system	Name organs in the digestive State the role of organs in th Describe adaptations pertina	ET (TA with feed	100% sheet			
	1	Food chains	Describe feeding relationships be	Describe the route of energy Explain why energy is 'lost' a Construct and interpret food	at each tropic leve				
	6 2	Food webs	Describe the interdependence of	Interpret and construct food State trophic levels and use Predict and explain changes Analyse human impacts on r	k ET (TA with feed	from cycle 1 100% sheet			

7	1 MCA 2 Acid reactions	MCA  Describe the products formed who	Name the general products o CPAC 3 - Stay safe Explain practical observation; ET	Γ (TA with feed	Learn topic 6 from cycle 1 100% sheet		
	1 Acid reactions	Describe the products formed who	Name the general products of both CPAC 3 - Stay safe Explain practical observations Use particle diagrams to show a	chemical reac	Learn topic 7 from cycle 1 100% sheet		
8	2 Naming Salts an	o Use word equations to summarise	Idenifty a metal, metal carbor ET				
	1 Non-contact force	ces			Learn topic 8		
9	2 Newton's Laws				from cycle 1 100% sheet		
	1 Speed	Calculate speed, distance travelle	State the equation S=D/T Recall the rearranged equations Use SI units for S, D and T Convert units of time and distance	ce	Review topics		
10	2 D/T graphs	Interpret and complete distance-ti	Describe what different parts Read values from D/T graphs Use information to construct ET i Associate -D with movement 10	Γ (TA with feed	1-8 from cycle 1 100% sheet		
	1 Acceleration	Calculate the acceleration of an o	State the equation for acceleration State the units for acceleration Describe deceleration as -a Solve problems given informatio				
11	2 S/T graphs	Interpret and complete speed-time	Describe the motion of object Draw a S/T graph given data ET Read values from a S/T grap 10	Γ (TA with feed 10% sheet			
	1 Assessment	Assessment	EC	OC - topic 1-8 c			
12	2 TEAM REACH						
	1 Feedback	Plan as appropriate					
13	2 Re-teach	Plan as appropriate					

	Science								
oW Title:	Year 9								
ar	rear 9								
te:									
ite:									
					Assessment and Showcase				
					Pieces				
1.		Title	Obligation	T	(minimum		Li-l- 4	4000/ 0	
eek	Lesson	Title	Objective	Teaching activities	grade 6)	Mastery tasks	Links to resource	es e.g. 100% S	neets
		1 INSET							
		2 PCD							
		3 Introduction: Atomic structure							
ull Stops		4 Atomic structure 2							
		1							
		2							
		3							
	2	4							
		1							
		2							
		3							
	3	4							
			1. Understand what is meant by isotopes. 2. Understand radioavity						
			occurs due to unstable isotopes. 3. State the three forms of radiation						
		1 Radioactivity and isotopes							
			Understand how scientists measure activity. 2. Be able to describe alpha, beta and gamma particles. 3. Understand what is						
		2 Radioactive emissions.	meant by ionisation.						
			1. Understand how ionisation links to peneration. 2. Be able to						
		3 Radioactivity and penetration	state what materials stop each radioactive particle.						
	4	4 Hlaf-life	Be able to state the definition of half-life. 2. Be able to to calculate half-life from graphs.	Use dice to immitate radioactive decay, students to plot graph and state its half-life.					
	4	4 Mai-lie	Be able to define fission as the spliting of atoms. 2. Be able to	ose dice to infinitate radioactive decay, students to plot graph and state its nail-line.					
			state how new elements are formed through fusion. 3. Be able to						
		1 Nuclear fission and nuclear fusion	draw a fission chain reaction.						
			Understand that background radiation is evidence for the hig						
		Background radiation and uses of radiation	bang. 2. understand how radiation is used in medicine and power stations.						
		2 Tadiation	Be able to draw the arrangement of partilces in a solid, liquid and						
			gas. 2. Be abel to explain the motion of particles in a solid. 3. Be						
		3 Introduction to the particle model	able to explain the motion of particles in a liquid and gas.						
			1. Be able to explain the definition of density. 2. Be able to state the						
	5	4 Denisty	equation for density. 3. Be able to calculate density from given parameters.						
	-		Be able to explain that heating is the increase of kinetic energy						
			of the particles. 2. Be able to explain cooling as the reduction of						
		1 Effects of heating and cooling	kinetic energy.						
		2 Changes of state	Be able to label the various changes of state. 2. Be able to describe changes of state using the particle model.						
		-	Be able to define evaporation. 2. Be able to define vaporisation.						
			Be able to define evaporation. 2. Be able to define vaporisation.     Be able to explain the differences between the two.						
			1. Be able to define latent heat. 2. Be able to state the equation for						
			latent heat. 3. Be able to calculate latent heat when given						
	6	4 vaporisation	parameters.						
		1 Cells as th ebuilding blocks of life	students able to define a cell. 2. Be able to contrast the magnitudes of cells and atoms. 3.						
		call do an obtaining blooks of file	students will be able to label parts of a microscope. 2. Students						
			will be able to safely use a nicroscope. 3. Be able to identify key						
			organelles						
			Be able to label the key features of an animal and plant cell. 2.      Be able to label the key features of an animal and plant cell. 2.      Be able to label the key features of an animal and plant cell. 2.      Be able to label the key features of an animal and plant cell. 2.						
		3 plant cells	Understand the difference between animal and plant cells.						
	7	4 Organells and functions	Be able to state the key organelles for animal and plant cells. 2.  Be able to state the functions of each organelle.						
	-	- 1-ganono ana fanonono	Understand why specialised cell are required. 2. Be able to state						
		1 Specialised cells	the adapations to key specialised cells.						

	2 Duffusion	Understand what is meant by concentrations. 2. Be able to explain what is meant by diffusion		
	3 Diffussion in cells	<ol> <li>Understand what specialised cells require diffussion.</li> <li>Explain how diffusion occurs in cells.</li> <li>Exlain how cells are adapted to perform diffusion.</li> </ol>		
8	4 Osmosis			
	1 Osmosis in cells			
	2 Cell organisation			
	3 Organ systems			
9	4 Skeletal system			
	1 Parts of the digestive system			
	Journey of food as it passes through the digestive system			
	3			
10	4			
	1 Revision			
	2 Revision			
	3 Assessment		Full EOC Assess	
11	4 Assessment		Full EOC Assess	
	1 Re-teach			
	2 Re-teach			
	3 Re-teach			
12	4 TEAM REACH			
	1			
	2 Feedback			
	3 Redrafting			
13	4 TRIP			

Subject:	Chemistry		Timings	NB: 30 mins per week spent on FR and respondi	-							
SoW Title:		structure, periodic table, bonding)		NB: data expectations - 100% scores tracked ea								
Year	2018/19		Lesson 2 (90)	NB: feedback expectations - mark one exam Q p	er week, pupils l	have time in lessons	to respond					
Date:	Cycle 1											
Week		Title	Objective		Assessment and Showcase Pieces	Maste	ry tasks					
			,		(minimum		.,					
	Lesson			Key Knowledge/Content	grade 6)			Links to resources e.g. 100% Sheets				
		Introduction to GCSE 1 chemistry	Describe the basic structure of the periodic table	Define element, compound and mixture Describe the basic structure of the periodic table		100% sheet (In class quiz)	Complete, mark and redraft	Link to 100% sheet: T:\NEW T DRIVE\PUPIL LEAR	NING\Secondary Scier	nce\Memrise (Knowledge Or	ganisers)\Phase 4 (2018-19	<del>)</del> )
	1	Separation techniques	Describe methods of separating mixtures	Name the four methods of separating mixtures Describe the use of each separation technique Describe the method used for each separation	ET (TA with feet	Learn set 1 from cycle 1 100% sheet	pg8	text book answers (google classroom)				
	2	Developing the atomic model	Explain how the atomic model has	Describe the structure of the atom Describe the atomic model at different stages of its Compare the plum pudding model of the atom to the Explain why new evidence from the scattering expe Explain how the atomic model has changed over tin	development. e nuclear model o riment led to a cha ne (more complex	ıf a	pg 14	text book answers (google classroom)				
		Atomic structure & RAM	Relate size and scale of atoms to objects in the physical world.	State the relative charge and mass of sub atomic ps Calculate the number of protons, neutrons and elec- Identify the atomic number and mass number of an Relate size and scale of atoms to objects in the phy	t <mark>t</mark> a	ŕ						
		Isotopes	Compare the size of an atom to real world objects to appreciate the scale.	State the definition of relative atomic mass. State the definition of isotopes. Calculate the number of protons, neutrons and elec Compare the size of an atom to real world objects to			pg 16					
	3	Development of the periodic table	Explain how electronic structure is	Describe the role of different scientists in developing Describe how electrons are arranged in an atom. Represent the electronic structure of the first 20 elei Explain how electronic structure is linked to the peri	n	cycle 1 100% sheet	F8 23					
		Metals vs non-metals	Explain how the reactions of elem	Describe the difference between metals and non-metals. Describe typical properties of transition metals. Compare the properties and reactivity of transition in Write balanced symbol equations for the reactions of Explain how the reactions of elements are related to	metals to group 1	n s.	pg 32					
	4	Periodic trends - group 1	Explain periodic trends using electronic structure.	Describe the trend in reactivity in group 1. Explain the trend in reactivity in group 1. Describe the trend in reactivity in group 7. Explain the trend in reactivity in group 7. Explain why the Nobel gasses are unreactive.	ET (TA with feet	from cycle 1 100% sheet	pg 32					
	5	Periodic trends - group 7	Explain periodic trends using electronic structure.	Describe the trend in reactivity in group 1. Explain the trend in reactivity in group 1. Describe the trend in reactivity in group 7. Explain the trend in reactivity in group 7. Explain why the Nobel gasses are unreactive.		Review topics 1-3 from cycle 1 100%	pg 30					
		States of matter	Explain the limitations of particle	Predict the state of matter of substances at different Represent the three states of matter using particle of Explain the relationship between intramolecular bon Explain the limitations of particle theory in relation to	di no	sheet <sup>*</sup>						
	6	Ionic bonding	Explain how ionic compounds are held together.	State the charge of ions formed from atoms in group Draw dot and cross diagrams for ionic compounds ( Describe the arrangement of ions in an ionic lattice Explain how ionic compounds are held together.	using ions of grou	Learn topic 4 from cycle 1 100% sheet	pg 42					
		Ionic compounds / MCA	Explain the properties of ionic compounds.	Describe the properties of ionic compounds. Explain why ionic compounds have high melting poi Explain why ionic compounds conduct electricity wh	MCA - topic 1-4							
	7	Covalent bonding	Describe the limitations of using dot and cross, ball and stick, two and three-dimensional diagrams to represent molecules or giant structures.	Describe the bonding in covalent compounds. Draw dot and cross/ ball and stick diagrams/ structu Identify the molecular formula of a substance from a Describe the limitations of using dot and cross, ball	a diagram.	'	pg 46					
		Covalend compounds	Explain the properties of simple covalent compounds.	Describe the properties of simple covalent compour Explain why simple covalent compounds have low r Explain why simple covalent compounds do not con	m	d						
		Metalic bonding	Explain how the atoms in metals are bonded to each other.	Describe how the atoms in metals are arranged. Explain how the atoms in metals are bonded to each Draw and interpret diagrams to show metallic bondi		Learn tonic 6 from	pg 54					

	8	Alloys	Explain the properties of metals and	State the definition of an alloy. Explain why metals can be bent and shaped. Explain why alloys are harder than pure metals. Explain why metals conduct electricity and thermal e	ET (TA with feed 100% sheet	Learn topic to from cycle 1 100% sheet					
	9	Diamond and silica	Explain why giant covalent compounds have high melting and boiling points	Describe the properties of giant covalent compounds. Identify giant covalent structures from diagrams of their bonding. Explain why giant covalent compounds have high melting and boiling points.		Review topics 1-6 from cycle 1 100% sheet	pg 48				
		Graphite and graphene	graphite and explain the differences in	Describe the bonding in graphite. Explain why graphite can conduct electricity and the Compare the properties of diamond and graphite and	ET (TA with feed 100% sheet						
		Fullerenes		Describe the arrangement of carbon atoms in fullered Describe uses of fullerenes Evaluate the benefits and risks associated with using		Review topics 1-6	pg 56				
1	10	Nano particles	Male order of magnitude calculations	Relate size and scale of nanoparticles to atoms and Male order of magnitude calculations. Explain why nanoparticles have different properties t		from cycle 1 100% sheet					
	11	Revision									
		Revision									
	12	Revision			EOC - topic 1-8 c						
		Assessment									
1	13	Review				Redraft questions					
		Review				from assessment					

Subject: SoW Title:	Biology Cells and Organ	ningtion	Timings Lesson 1 (60)	NB: 30 mins per week spent on FR and responding to feedback NB: data expectations - 100% scores tracked each week. MCA/E		I OI A to discuss	I M				
Year	2018/19	naduUll	Lesson 2 (90)				Liel				
Date:	Cycle 1		Lesson 2 (90)	NB: feedback expectations - mark one exam Q per week, pupils	nave time in les	sons to respond					
Jate.	Cycle I										
					Assessment						
					and						
Neek		Title	Objective		Showcase	Master	y tasks				
			•		Pieces (minimum						
	Lesson			Key Knowledge/Content	grade 6)			Links to resources e.g. 100% Sheets			
		NONE - Inset Day				100% sheet (In	Complete, mark				
		I NOINE - Iliset Day				class quiz)	and redraft	Link to 100% sheet: T:\NEW T DRIVE\PUPIL LEAR	RNING\Secondary Science	Memrise (Knowledge Orç	ganisers)\Phase 4 (2018-19)
	1	Design of a sellence	0	Label prokaryotic and eukaryotic cells		Learn Chapter 1					
		Prokaryotic cells vs eukaryotic cells	Compare eukaryotes (animal and plant cells) to prokaryotes (bacteria)	Describe the functions of their organelles Describe similarities and differences between them	ET (TA with fe	from cycle 1					
	1	2	cond) to pronaryotos (bactoria)	Calculate order of magnitude	100% sheet	100% sheet					
				Label a typical animal cell							
		RPA 1 - Animal microscopy	RPA 1 use a light microscope to observe,	Describe the functions of the organelles							
		1	draw and label a selection of animal cells. A scale magnification must be included.	Draw a scientific diagram of an animal cell including a scale		Learn AQA Subject Specific	Cells exam questions				
	2			Label a typical animal cell		Vocab from cycle	4				
		RPA 1 (cont) - Plant	RPA 1 use a light microscope to observe,	Describe the functions of the organelles		1 100% sheet					
		microscopy	draw and label a selection of animal cells.	Prepare a microscope slide	ET (TA with fe	e					
	- 2	2	A scale magnification must be included.	Draw a scientific diagram of an animal cell including a scale	100% sheet						
				Name specialised plant and animal cells Describe how cells differentiate							
		Cells specialisation	Explain how specialised animal and plant	Explain how the structure of specialised cells helps them							
		1	cells are adapted for their function.	function		Learn Chapter 2					
	3			State the definition of diffusion		from cycle 1 100% sheet					
		Diffusion		Give examples of diffusion in the human body Explain how factors can affect the rate of diffusion		. 50 /0 SHEEL					
			Explain how organisms are adapted to	Explain how organisms are adapted to maximise the rate of	ET (TA with fe	e					
	2	2	maximise the rate of diffusion.	diffusion	100% sheet						
				Define osmosis							
		Osmosis		Define: isotonic, hypertonic and hypotonic Describe movement of water by osmosis in terms of: water							
		1	Explain why osmosis is important to cells.								
				MS 1a, 1c - Use simple compound measures of rate of water		Learn Chapter 3a					
	4			uptake		from cycle 1					
			Describe movement of water by osmosis	MS 1c - Use percentages and calculate percentage gain and loss of mass of plant tissue		100% sheet					
		RPA 3 - Osmosis	in terms of: water concentration and	MS 2b - Find mean mass of plant tissue							
			solute concentration	MS 4a, 4b, 4c, 4d - Plot, draw and interpret appropriate							
				graphs WS 2.7 - Evaluate the method and suggest possible improvements and further investigations	ET (TA with fe 100% sheet	<mark>e</mark>					
		2		State the definition of active transport	100% Sheet						
			Compare active transport, diffusion and	Describe how animals and plants use active transport							
		Active transport	osmosis.	Explain how animal and plant cells are specialised for active tr	ransport	Learn Chapter 3b					
	5	1		Compare osmosis, diffusion and active transport		from cycle 1					
		Mitosis		State uses of the cell cycle. Order the stages of the cell cycle using pictures.		100% sheet					
	1	2	Describe how cells divide using mitosis.	Describe how cells divide by mitosis.	MCA						
			· ·	Define a stem cell.							
		Stem cells	Evaluate the use of stem cells in science.	State tissues that produce stem cells.							
				Describe conditions stem cells can be used to treat.		Dovious Chanta- 4					
	6			Describe the ethical issues around stem cells.  Label the digestive system		Review Chapter 1 from cycle 1					
	-		Evaluin the adoptation of the disc.	State the use of the products of digestion.		100% sheet					
		Digestive system	Explain the adaptations of the digestive system.	Order: cells, tissues, organs, organ systems and organisms.							
			-,	Describe the function of the organs in the digestive system.	ET (TA with fe 100% sheet	e					
	4	-		Explain the adaptations of the digestive system.  AT 2 - Safe use of a Bunsen burner and a boiling water bath	100% SHEET						
			Has qualitative record to to the	AT 8 - Use of qualitative reagents to identify biological							
		RPA 4 - food tests	Use qualitative reagents to test for a range of carbohydrates, lipids and	molecules							
		1000 (CSIS	proteins.	WS 2.4 - Carry out experiments having due regard for the		Learn Chapter 4a					
	7	1		correct manipulation of apparatus, and health and safety considerations		from cycle 1					
				State the sites of production and action of amylase, proteases		100% sheet					
		Enzymes	Use the lock and key model to explain	Describe the reactions catalysed by amylase, proteases and li							
			enzyme action	Describe the role of bile in enzyme activity.	ET (TA with fe	e					
		L Hoart and blood		Use the lock and key model to explain enzyme action	100% sheet						
	0	Heart and blood			ET /TA with fo	Learn Chapter 4b from cycle 1					
	ĭ  :	Heart dissection			100% sheet	100% sheet					
		Coronary heart disease				Review topics 1-4					
	0				ET (TA with fe	from cycle 1					
		Gas exchange in humans			100% sheet	100% sheet					
		Tissues in plants				Review topics 1-4					
1	0	Transport in plants				from cycle 1					
	_				100% sheet	100% sheet					
1		1 Revision									
		2 Revision									
	,	Revision			EOC						

12		2 Assessment								
42		1 Review		Red	edraft questions om assessment					
10	'	2 Review		fron	om assessment					

Subject:	Triple Science: Physic	s						
SoW Title:								
Year	201	8						
Date:	01/09/201	8						
Week	Lesson	Title(Chapter title)	Key Knowledge/Content	Objective	Assessment and Showcase Pieces (minimum grade 6)	Mastery tasks	Links to resources e.g	.g. 100% Shee
		1 PCD						
1 Full Stops		2 Overview of physics GCSE	SI units. Conversions to SI units.	Overview of course. St units				
		1 Solving Equations	Practice solving equations using known and unknown formulas.	Using VESSU				
	2	2 Atoms and radiation	What a radioactive substance is. Types of radiation.	To understand different types of radiation				
		1 Discovery of the nucleus	Plum pudding model and why was rejected.	To understand the development of the Bohr model of the atom	Answer a 6 mark question on the discovery			
	3	2 Changes in the nucleus	What an isotope is. How atoms change when an alpha or beta is emmitted.	Write down nuclear equations.	Answer GCSE questions about nuclear equ			
		1 Alpha, beta gamma and penetration	Understand how far each form can travel in air and absorbtion. Ionisation.	Understand the applications of pentration				
	4	2 Half life	Understand half life and calculate it from a graph.	Define half life. Calculate half life.				
		Nuclear radation and medicine	How isotopes are used for diagonistics	How to use radation for a specific job.	GCSE questions			
	5	2 Nuclear fission and fusion	Uderstand the difference between fusion and fission	Be able to draw fission nd fusion diagrams. Undrrstand chain reaction				
		1 Nuclear issues	Understand the stical issues regarding the use of radiation	Be able to agrue for and against the use of nuclear energy.				
	6	2 Radiation Assessment						
		1 Feedback						
	7	2 Molecules and matter	Understand density	1. Be able to recall the density equation. 2. Calculate density problems. 3. be able to determine if an object will float.	Pg 77 questions.			
		1 States of matter	Understand the difference between solid, liquid and gas.	1. Be able the state the different properities of a solid, liquid anda gas. 2. Be able to describe the arrangements of particles in each state. 3. Understand why the mass stays the same when there is a change of state.	Pg79 Questions			
	8	2 Change of state(Practical: Plotting change of state graph	Understand what happens to a substance when there is a change of state.	1. state what is meant by boiling and melting points. 2. Be able to state what is meant by latent heat. 3. Be able to calcuate specific latent heat.				
		1 Specific heat capacity. (RP)	Understand what is meant by SPH.	1. Be able to state the SHC formula. 2. Plot graph and calcuate gradient. 3. Calculate specific heat capacity.	GCSE question on the RP			
	9	2 Internal energy	Understand what is meant by internal energy	1. Be able to state the difference between kinetic and potential energies. 2. State what happens when you increase the temperature. 3. Explain how a gas exerts pressure.	Pg83 questions			
		1 Specific latent heat	Understand what is meant by specific latent heat.	1. Be able to define specific latent heat. 2. Be able to recall specific latent heat. 3. Be able to caluate specific latent heat.	Pg85 questions			
1	10	2 Gas pressure and temperature	Understand how temperature is linked to gas pressure	1. Understand how a gas exerts pressure. 2. How pressure is changed in a sealed container when temperature is changed. 3. Be able to describe brownian motion				
		1 Gas pressure and volume	Understand Boyle's law	1. Understand work is done on a piston. 2. Be able to state Boyle's law. 3. Solve problems using Boyle's law	Pg89 questions			
1	11	2 Revision						
		1 Revision						
		2 Assessment						
		3 Re-teach						
		4 TEAM REACH						
		1						
		2 Feedback						
		3 Redrafting						
1	13	4 TRIP						

itle:	C10-13 (Organia	reactions, polymers, chemical a	Lesson 1 (60)	NB: 30 mins per week spent on FR and respondir NB: data expectations - 100% scores tracked eac		C marked and C! A +	o discuss with I M								
ue.		reactions, polymers, chemical a													
	2018/19		Lesson 2 (90)	NB: feedback expectations - mark one exam Q pe	er week, pupils h	ave time in lessons t	o respond								
	Cycle 1														
		Title	Objective		Assessment and Showcase Pieces (minimum		Mastery tasks								
	Lesson				grade 6)				Links to resources e.g. 100% S	heets					
	1	Year 10 recap	Describe the processes used to make alkanes and alkenes from crude oil.	Define crude oil Describe fractional distillation Describe cracking Draw alkanes and alkenes given names Name given alkanes and alkenes		100% sheet (In class quiz)	Complete, mark and redraft	Complete and hand in	Link to 100% sheet: T:\NEW T D	RIVF\PUPII I FARN	ING\Secondary So	cience\Memrise (	Knowledge Organ	isers)\Phase 4 (2	2018-19
1	1	Alcohols		State the functional group of alcohols, carbo Draw the displayed structural formula of the Describe the properties/ uses of alcohols, ca Describe the conditions used to make alcoh	HW (TA with fee	Learn set 1 from cycle 1 100% sheet	pg 161	Atomic Structure			,				
	2		Describe the conditions required to		100% sheet				text book answers (google classr	oom)					
	1	Reactions of alcohols	Represent combustion reactions of	Describe the reaction of alcohols with sodiul Draw structural formulae to represent the re Represent combustion reactions of alcohols		Learn set 2 from									
2	2	Carboxylic acids and esters		State the functional group of an ester/ carbo Draw the displayed functional group of an e Describe the reaction of an alcohol and a ca		cycle 1 100% sheet	pg 165	Periodic Table							
	2		Describe the reaction of an alcohol		Draw the display										
3	3 1	Addition polymerisation	Explain why monomers for addition polymerisation must be unsaturated.	Define a monomer and a polymer Draw the monmer for an addition polymer w Explain why monomers for addition polymer Ext: Explain the process of addition polymer		Learn set 3 from cycle 1 100% sheet									
	2	Condensation polymerisation	Compare and contrast two methods	Draw the structural formula of the monomer Predict products of condensation polymerisa Compare and contrast two methods of polymerisa	Describe the cor	Ī	pg 169	Structure and Bonding							
4	4 1	Natural polymers	Draw the products of condensation	Describe examples of natural polymers (nar Describe the structure of an amino acids. Predict the products of condensation polyme Ext: Explain how amino acids react together	erisation to for										
	2	DNA + topic recap	Explain how nucleotides form DNA.	Name the type of monomer used to make I Describe the structure of DNA (and draw a Explain how nucleotides form DNA.	HW (TA with fee 100% sheet	sheet	pg 173	Chemical Calculations							
5	5 1	Pure substances	Calculate percentage composition of components in a range of formulations.	State what a pure substance and formulatic Explain how mp/bp data can be used to ass Calculate percentage composition of composition	cocc purity										
	2	Formulations			HW (TA with fee 100% sheet		pg 181	Chemical Changes							
		Chromatography	Explain why different substances w	Safely carry out paper chromatography and calculate Explain how chromatography separates mixtures Use a chromatogram to analyse purity Explain why different substances will have different F											
6	3		Explain willy different substances w			Learn topic 5 from cycle 1 100% sheet									
	2	RP6	Calculate Rf values	AT 1 – use of appropriate apparatus to make and red AT 4 – safe use of a range of equipment to purify an WS 2.4 – carry out experiments appropriately having WS 2.6 – make and record observations and measu	HW (TA with fee 100% sheet	,	RP6 conclusion Qs	Electrolysis							
7	7	Identifying gasses	Write balanced symbol equations fo	Safely carry out the test for O2, CO2, H2 and Cl2 (ar Interpret results to identify a gas that is present. Write balanced symbol equations for these reactions Ext. explain the observations seen when testing for g	(with state symb										
	2	MTA			MCA - topic 1-4		pg 185	Energy Changes							
	1	Flame tests	Explain why a flame test cannot be used for a mixture of metal ions.	Safely carry out a flame test Identify metal ions from flame tests. Explain why a flame test cannot be used for a mixtur Ext: Evaluate flame tests as a method for identifying	e of metal ions.	Review topics 1-6									
8	2	NaOH tests	Write balanced ionic equations (including state symbols) for the production of metal hydroxide.	Safely carry out testing for positive ions using sodiur Write balanced symbol equations for the production Write balanced ionic equations (including state symbol Ext: explain why Iron (II) hydroxide (aq) often change		from cycle 1 100% sheet	pg 187	Rates and Equilibrium							

9	Ania		Explain in detail how to identify an unknown compound from laboratory tests.	Safely carry out tests for carbonates, sulphates and halides. Write balanced symbol and ionic equations for anion tests. Explain why it can be difficult to identify halides from this method. Ext: explain in detail how to identify an unknown compound from laboratory tests.	1	Review topics 1-6 from cycle 1 100% sheet					
	RP7		Use chemical tests to identify unknown compounds	AT 1 – safe use of a Bunsen burner. AT 8 – use of appropriate qualitative reagents and te WS 2.4 – carry out experiments appropriately having WS 2.6 – make and record observations and measul HW 100	V (TA with feed 0% sheet		RP7 conclusion Qs	Crude oil and fuels			
10	1	ly atmosphere	Use balanced symbol equations to explain how the atmosphere and oceans were formed.	Describe the composition of the Earth's early atmosphere Describe a theory for the development of the Earth's atm Use balanced symbol equations to explain how the atmos Ext: Explain the limitations for the theory of the developm	nosphere. osphere and or nent of the Ear	Review topics 1-6 from cycle 1 100% sheet					
10		lving atmosphere	Use balanced symbol equations to explain changes to the Earth's atmosphere	Describe how the composition of the atmosphere has State the composition of dry air. Explain why the composition of the Earth's atmosphe Use balanced symbol equations to explain changes HW 100			pg 197	Organic Reactions			
11	clima 1	ennouse gasses and	Explain how human activity can change the proportion of greenhouse gasses in the atmosphere.	Name three greenhouse gasses. Explain how greenhouse gasses increase the temperatur Explain how human activity can change the proportion of Ext: Evaluate evidence to suggest if global warming is many	f greenhouse						
11		luating human impact	Explain possible methods of reduci	List possible outcomes of global warming. Explain the possible effects of global warming and w Explain possible methods of reducing greenhouse gt Ext: Justify why reducing greenhouse gas emissions HW 100	V (TA with feed 0% sheet		pg 201	Polymers			
40	1		Suggest and explain methods to reduce atmospheric pollution.	Describe the health impacts of atmospheric pollutants. Use balanced symbol equations to show how atmospheric Suggest and explain methods to reduce atmospheric poll Ext: predict the products of combustion given information	llution.						
12		ources			V (TA with feed 0% sheet		pg 203	Chemical Analysis			
	Wate		Explain in detail why desalination is often used to generate potable water.	State what is meant by potable water and describe the st Explain the difference between pure water and potable w Describe in detail how to safely distill salty water. Explain in detail why desalination is often used to genera	water. ate potable wa						
13			Explain how waste water is treated and describe uses of its products.		V (TA with feed D% sheet		pg 211	Earth's Atmosphere			
	Instr		Explain how metal ions emit light when in a flame.	State advantages and disadvantages of instrumental tecl Describe the main processes of flame emission spectrose Explain how metal ions emit light when in a flame. Ext: Evaluate the use of instrumental techniques.							
1	RP8	3	Purify and Test Water	AT 2 – safe use of appropriate heating devices and t AT 3 – use of appropriate apparatus and techniques AT 4 – safe use of a range of equipment to purify an WS 2.3 – apply a knowledge of a range of technique WS 2.4 – carry out experiments appropriately having WS 2.5 – recognise when to apply a knowledge of s WS 2.6 – make and record observations and measu WS 2.7 – evaluate methods and suggest possible in W	V (TA with feed 0% sheet		RP8 conclusion Qs	Paper 1			
	-				1 Mock						

	nı :									
Subject:	Physics									
SoW Title:	Year 11 Cycle									
Year	Year 11 Cycle									
Date:	Sept- Decemb	er 2018								
					Assessment					
					and Showcase Pieces					
					(minimum					
Week	Lesson	Title	Objective	Key Knowledge/Content	grade 6)	Mastery tasks Links to resources e.g. 100% Sheets				
		1 Introductory lesson	To familiarise students with the structure o		,	Complete 'practice				
	1 2 (Only for 11)			i i		homework'	General structure to lessons			
	(0,	1 Forces Review Lesson	To ascertain students level of understanding	n Given a crip sheet of the key knowledge (provided),	Assessment que		60 mins lesson	90 mins lesson	Homework	
	2	2 Key teaching based on the revi	TBC	TBC	TBC	Learn the answers to 100% sheet on last n	Do now and marking (5 mins)	Do now and marking (5 mins)		ns on new and old content
		Left over teaching of last bits or			TBC		Hook (5 mins)	Hook (5mins)		n old and from new stuff
		2 Consolidation	TBC		TBC	Pressure questions + + 100% sheet first se	Key facts note taking/delivery (15			Total and Irom new stan
	3	2 Consolidation		Practice use basic pressure equation	TBC	T 100 /6 SHEET HIST SC	rey facts flote taking/delivery (15	III Key lacts note taking/delivery (	10 1111115)	
				Explain how pressure is generated by a fluid						
		1 Pressue and surfaces + Atmos	What happens to pressure in a fluid with in	Understand and apply the equation for difference in	pressure		Fact checking section/practice (15	m Fact checking section/practice	(15 mins)	
				PART 1 – atmospheric pressure						
				Understand what causes atmospheric pressure (thro		Homework -				
				Explain why atmospheric pressure decreases with he PART 2 – upthrust	leight	consolidation of				
	4	2 Pressure in a liquid	What is the difference between gauge and	Explain how upthrust is caused		forces questions	Complex practice (10 mins silence	e, f Complex practice (10 mins sile	nce, 5 mins working	together)
				Identify and label the parts of a longitudinal wave						
		1 Dranadias of ways 1 O-11-4	What are the main properties of waves?	Describe and use relationship between frequency ar Describe and calculate the wavespeed	nd period of wave		Modelled answers, self and peer a	nor Madellad annuara auf	v accessment /40 -	sino)
		1 Properties of waves + Calculat	what are the main properties of waves?				Modelled answers, self and peer a	ass Modelled answers, self and per	er assessment (10 n	ins)
				Can use ray diagrams to show the direction of move Describe what happens to waves in reflection, refraction.	ement or light wave					
	5	2 Manipulation of waves (through	What changes occur to waves in different	e Draw what happens when waves reflect, refract or d	liffract	Wave questions and				
				Explain what happens to light when it reaches the bo						
		4 Definition and Definition of the		Take a set of results and plot change in angle of inci	idence vs angle o			Decreed to model on (5.40 miles		
		Reflection and Refraction of lig	How can we measure the reflection and re	f Calculate the refractive index of a substance				Respond to marking (5-10 mins	5)	
				Describe how different colours of light are different w Describe why different materials to be different in col	wavelengths					
	6	2 Light and colour	What causes light to form in different colou	Explain the impact of different filters in terms of types	s of light that pas	Refraction and reflec		20 mins of challenge - effective	DIRT time	
				Describe the difference between convex and concav	ve lenses					
				Complete a ray diagram for both types of lenses		Ray diagram and				
		1 Lenses and using lenses	What impact do lenses have on the direction			lenses question				
				Describe how sound is generated and propagated Describe how the ear converts sound into electrical s	eignale	practice and revision of 100%				
	7	2 Sound waves, seismic waves	What is sound and how can we measure it	t' How sounds are measured in terms of frequency, wa	avelength and lou	sheet				
				State the limits of human hearing frequency						
				Describe how ultrasound can be used to calculate di	listances					
		1 Uses of ultrasound	How can ultrasound be used in a number of	Calculate distances to objects using the sound equa	ation					
				State the parts of the electromagnetic spectrum Describe characteristics of each part of the electrom	nagnetic spectrum					
	8	2 Electromagnetic Spectrum - wa	What is the electromagnetic spectrum and	Give uses for each part of the electromagnetic spect	trum	Questions to review I				
				Describe what infrared radiation is						
		4 1	What footer offers the above the sent and and	Explain how the emission and absorption of infrared is Describe an investigation to test emission/absorption	can be encourag	€				
		investigating infrared radiation	t what factors affect the absorption and emi							
				Describe how electromagnetic waves enable commu Explain how communication can be made using sate						
	9	2 Communications and X-rays	How are waves used in communication?	Explain new communication can be made doing eate	omico aria trio ato	Electromagnetism qu				
				Understand the link between electricity and magnetis	ism					
		1 Magnetic fields and Electric		Draw out the magnetic field around a current		Magnetism and				
		i iviagnetic fields and Electric cui	What is the link between magnetism and e		unatio fiel-	Electromagnetism				
				Describe how a wire can be made to move in a mag. Use Fleming's left hand rule to work out the direction	prietic field n of force or curre	questions and revision of 100%				
	10	2 Fleming's left hand rule	How can we predict motion of a wire in a n	n Apply knowledge of left hand rule to a range of appli	ications	sheet				
		1 Revision								
	11	2 Assessment			Full EOC Assess					
		1 Re-teach								
	12	2 TEAM REACH								
		1 Feedback + re-drafting								
		2 TRIP								
	-									
		STILL TO DO:								
		Generator effect								
		AC generator Transformers								
		Transformers in action								
		Formation of solar system (and	I solar system itself)							
		The life history of a star								
		Planets, Satellites and orbits								
		The expanding universe								
		Beginning and end of universe								