

Chemistry Long Term Plan Year 9 2019-20

Temperance Term

W/C	2nd September	9th September	16th September	23rd September	30th September	7th October	14th October	21st October
Topic	C1 – Atomic structure and the periodic table							
	Explaining and describing the following: In covalent bonding the particles are atoms which share pairs of electrons. For metallic bonding the particles are atoms which share delocalised electrons. Ionic bonding occurs in compounds formed from metals combined with non-metals. Covalent bonding occurs in most non-metallic elements and in compounds of non-metals. Metallic bonding occurs in metallic elements and alloys.							
Challenge	Experimentally determine the empirical formula of an ionic compound from a given model or diagram that shows the ions in the structure							
Assessment	C1 mid-unit exams and review							
W/C	HALF TERM	4th November	11th November	18th November	25th November	2nd December	9th December	CHRISTMAS
Topic		C1 – Atomic structure and the periodic table						
		Nanoparticles have many applications in medicine, in electronics, in cosmetics and sun creams, as deodorants, and as catalysts. New applications for nanoparticulate materials are an important area of research.						
Challenge		Explain the influence of how the side of cube decreases by a factor of 10 the surface area to volume ratio increases by a factor of 10.						
Assessment		C1 unit exams and review						

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Justice Term

W/C	6 th January	13 th January	20 st January	27 th January	3 rd February	10 th February	HALF TERM
Topic	C2 - Bonding, structure, and the properties of matter						
	Students should be able to draw dot and cross diagrams for the molecules of hydrogen, chlorine, oxygen, nitrogen, hydrogen chloride, water, ammonia and methane, and represent the covalent bonds in small molecules, in the repeating units of polymers and in part of giant covalent structures, using a line to represent a single bond						
Challenge	Students should consider advantages and disadvantages of the applications of these nanoparticulate materials, but do not need to know specific examples or properties other than those specified.						
Assessment	C2 mid unit exam and review						
W/C	24 th February	2 nd March	9 th March	16 th March	23 rd March	30 th March	EASTER
Topic	C2 - Bonding, structure, and the properties of matter						
	Describe how ionic compounds have regular structures (giant ionic lattices) in which there are strong electrostatic forces of attraction in all directions between oppositely charged ions. These compounds have high melting points and high boiling points because of the large amounts of energy needed to break the many strong bonds.						
Challenge	Students should be able to use the idea that intermolecular forces are weak compared with covalent bonds to explain the bulk properties of molecular substances.						
Assessment	C2 unit exam and review						

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Courage Term

W/C	20 th April	27 th April	4 th May	11 th May	18 th May	HALF TERM
Topic	C3 – Quantitative chemistry					
	Describe how the structure of fullerenes is based on hexagonal rings of carbon atoms but they may also contain rings with five or seven carbon atoms. The first fullerene to be discovered was Buckminsterfullerene (C60) which has a spherical shape.					
Challenge	Explain the effect of a limiting quantity of a reactant on the amount of products it is possible to obtain in terms of amounts in moles or masses in grams					
Assessment	C3 mid-unit exams and review					
W/C	1 st June	8 th June	15 th June	22 nd June	29 th June	6 th July
Topic	KS3 Internal Exams		C3 – Quantitative chemistry			
			Describe how the structure of fullerenes is based on hexagonal rings of carbon atoms but they may also contain rings with five or seven carbon atoms. The first fullerene to be discovered was Buckminsterfullerene (C60) which has a spherical shape.			
Challenge			Explain the effect of a limiting quantity of a reactant in terms of concentration, temperature and pressure.			
Assessment			C3 unit exam and review			