

SUBJECT	A level Chemistry
<i>We are delighted that you are keen on studying A level Chemistry and we look forward to working with you over the next two years. Remember that the entry requirements for A level Chemistry are grade 6:6 in GCSE Combined Science or grade 6 in GCSE Chemistry.</i> <i>Below, we have suggested some tasks to complete over summer to prepare you for the course ahead. Good luck in your GCSE's, from Mrs Brett-Andrew, Mrs Ormshaw and Dr Smethurst (Teachers of Chemistry).</i>	
WATCH THIS	Why are we still searching for fossil fuels? Panorama documentary available on iPlayer BBC iPlayer - Panorama - Why Are We Still Searching for Fossil Fuels? Pain, Pus and Poison: The search for modern medicines Michael Mosely series available on iPlayer. BBC iPlayer - Pain, Pus and Poison: The Search for Modern Medicines
LISTEN TO THIS	The Anniversary of the Periodic Table The Infinite Monkey Cage podcast available on BBC Sounds The Infinite Monkey Cage - Series 20 - Anniversary of the Periodic Table - BBC Sounds
READ THIS	There are many interesting articles on these websites: The Naked Scientists Chemistry news, articles and features New Scientist Chemistry The Guardian
DO THIS	Exploring Everyday Chemistry University of York MOOC on Future Learn. Register and complete this course for free. https://www.futurelearn.com/courses/everyday-chemistry
LEARN THIS	The list below shows the formulae and charges of some common complex ions. Learn these! ☐ Ammonium NH_4^+ ☐ Hydroxide OH^- ☐ Cyanide CN^- ☐ Carbonate CO_3^{2-} ☐ Hydrogen Carbonate HCO_3^- ☐ Nitrate NO_3^- ☐ Sulphate SO_4^{2-} ☐ Phosphate PO_4^{3-} ☐ Manganate (VII) MnO_4^- ☐ Dichromate (VI) $\text{Cr}_2\text{O}_7^{2-}$
ANSWER THIS	<i>Describe the differences in bonding, structure and properties between hydrogen chloride (HCl) and sodium chloride (NaCl). Use labelled diagrams to help explain your answer.</i>

CREATE THIS

GCSE summary sheets / mindmaps / flash cards on the following topic areas:

Amounts

- ☐ Mr
- ☐ Calculating moles
- ☐ Calculating masses
- ☐ Calculating limiting reactants

Bonding

- ☐ Ionic compounds and properties
- ☐ Simple covalent molecules and properties
- ☐ Giant covalent molecules and properties
- ☐ Metallic structures and properties

Energetics

- ☐ Endothermic and exothermic reactions
- ☐ Energy profile diagrams
- ☐ Calculating energy changes from Bond energy values

Rates

- ☐ Factors affecting rates
- ☐ Rate and graphs
- ☐ Required practicals

Reversible reactions

- ☐ Changing factors affecting position of equilibrium

Chemical changes

- ☐ Displacement reactions
- ☐ Reactions with Acids (Metal, Metal Oxide, Metal Hydroxide, Metal Carbonate)
- ☐ Acids and Alkalis
- ☐ pH
- ☐ Redox
- ☐ Half equations

Organic

- ☐ Alkanes
- ☐ Alkenes
- ☐ Fractional distillation

- ☐ Cracking
- ☐ Combustion

Atmosphere

- ☐ Greenhouse gases
- ☐ Greenhouse effect
- ☐ Pollutants

Atomic structure and Periodic table

- ☐ Isotopes
- ☐ Calculating relative atomic mass
- ☐ History of atom
- ☐ Group 7

Chemical analysis

- ☐ Testing for gases