



## NORWICH SCHOOL

### U5 Chemistry Scheme of Work Trinity 2020

Textbook required (free download, requires the Kindle app): <https://www.amazon.co.uk/New-Head-Start--level-Chemistry-ebook/dp/B00VE2NIGG>

Note – the majority of the work will be recap of GCSE Chemistry, focusing on the skills needed to succeed at A level. Remember that these topics will be revisited again next year. This is to give you a flavour for the subject and an indication of the skills level needed.

<b>Trinity Term:</b>	<b>Topic</b>	<b>What you'll study</b>	<b>Textbook Pages</b>	<b>A level topics briefly introduced</b>
<b>Week 1 w/c 20<sup>th</sup> April</b>	Atomic Structure	<ol style="list-style-type: none"><li>1. How our understanding of the structure of the atom has developed from early times to the modern day</li><li>2. Atomic structure in terms of the numbers of protons, neutrons and electrons for atoms and ions</li></ol>	Headstart – 1, 2 & 3	N/A
<b>Week 2 w/c 27<sup>th</sup> April</b>	Electronic structure	<ol style="list-style-type: none"><li>1. Evidence that electrons are held in shells around the nucleus</li><li>2. Electronic configurations for the first 20 electrons</li><li>3. The ideas behind sub-shells and how those allow us to work out the electronic configurations of all elements</li></ol>	Headstart – 4 & 5	Sub shells
<b>Week 3 w/c 4<sup>th</sup> May</b>	Ions and ionic bonding	<ol style="list-style-type: none"><li>1. The formation of ions and their formulae</li><li>2. Writing ionic formulae from ionic charges</li><li>3. Ionic bonding, structure and the effect of this on the physical properties of ionic compounds</li></ol>	Headstart – 6, 7, 11 & 12	Ionisation energy

<b>Week 4 w/c 11<sup>th</sup> May</b>	Chemical reactions and empirical formulae	1. construction of balanced chemical equations for reactions given 2. determination of formulae given experimental data	Headstart – 18 & 19, 28 – 30, 38, 44	Writing chemical equations from descriptions
<b>Half Term Holiday</b>				
<b>Week 6 w/c 1<sup>st</sup> June</b>	Mole calculations – reacting mass calculations	1. explanation and use of the terms <i>amount of substance, mole, Avogadro constant, molar mass</i> 2. calculations involving mass	Headstart – 37	Unstructured calculations
<b>Week 7 w/c 8<sup>th</sup> June</b>	Mole calculations – equations involving gases	1. explanation and use of the term <i>molar gas volume</i> 2. calculations involving gas volumes	Headstart – p44	Ideal gas equation
<b>Week 8 w/c 15<sup>th</sup> June</b>	Mole calculations – solution and titration calculations	1. calculations involving solution volume and concentration 2. recall the techniques and procedures used to carry out a simple titration	Headstart – p43	Unstructured calculations
<b>Week 9 w/c 22<sup>nd</sup> June</b>	Limiting reagents, % yield and atom economy	1. calculations to determine the percentage yield and atom economy of a reaction 2. an appreciation of the errors within apparatus	Headstart – p40, 45	Atom economy
<b>Summer Holiday</b>				