

Heston

COMMUNITY
SCHOOL

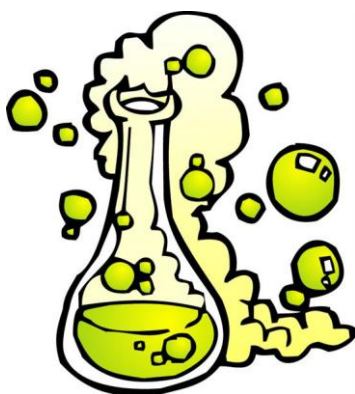


Transition Tasks

A Level Chemistry

Year 11 → Year 12

Name:



Compulsory Tasks <i>These must be completed before you start your course in September</i>	Minimum Time	Date
1. Head Start Books <ul style="list-style-type: none"> - Download the book on the Kindle App for free - LINK - Answer all the questions - Mark all questions using answers in the back - Add in your corrections in a green pen 	15 Hours	
2. Educake Consolidation Quizzes Get Above 80% in all Educake GCSE consolidation quizzes – you may repeat as many times as you need to <ul style="list-style-type: none"> - Atomic structure and periodic table - Bonding, structure and properties of matter - Qualitative Chemistry - Chemical Changes - Energy Changes - Rate and extent of Chemical Changes - Organic Chemistry - Chemical Analysis - Chemistry of the Atmosphere - Using Resources 	10 Hours	
3. Research Articles Use your online searching abilities to see if you can find out as much about the topic as you can. Remember it you are a prospective A level chemist, you should aim to push your knowledge. You can make a 1-page summary for each one you research using Cornell notes: LINK Task 1: <u>The chemistry of fireworks</u> What are the component parts of fireworks? What chemical compounds cause fireworks to explode? What chemical compounds are responsible for the colour of fireworks? Task 2: <u>Why is copper sulfate blue?</u> Copper compounds like many of the transition metal compounds have got vivid and distinctive colours – but why? Task 3: <u>Aspirin</u> What was the history of the discovery of aspirin, how do we manufacture aspirin in a modern chemical process? Task 4: <u>The hole in the ozone layer</u> Why did we get a hole in the ozone layer? What chemicals were responsible for it? Why were we producing so many of these chemicals? What is the chemistry behind the ozone destruction? Task 5: <u>ITO and the future of touch screen devices</u> ITO – indium tin oxide is the main component of touch screen in phones and tablets. The element indium is a rare element and we are rapidly running out of it. Chemists are desperately trying to find a more readily available replacement for it. What advances have chemists made in finding a replacement for it?	15 hours	

Optional Challenge Tasks <i>These will look impressive on your UCAS Personal Statements</i>	Date
<p>Suggested Reading</p> <ol style="list-style-type: none"> 1. Periodic Tales, H. Williams LINK 2. The Science of Everyday Life, M. Jopson LINK 3. Bad Science Ben Goldacre LINK 4. Calculations in AS/A Level Chemistry, J. Clark LINK 	
<p>Suggested Lectures</p> <ol style="list-style-type: none"> 1. Rough science – the Open University – 34 episodes available Real scientists are ‘stranded’ on an island and are given scientific problems to solve using only what they can find on the island. Great fun if you like to see how science is used in solving problems. There are six series in total LINK1, LINK2 2. A thread of quicksilver – The Open University A brilliant history of the most mysterious of elements – mercury. This program shows you how a single substance led to empires and war, as well as showing you come of the cooler properties of mercury. LINK 1, LINK 2 3. 10 Weird and wonderful chemical reactions, 10 good demonstration reactions, can you work out the chemistry of any... of them? LINK1,LINK2 4. The incredible chemistry powering your smartphone LINK 5. How pollution is changing the ocean's chemistry LINK 6. Is fire a solid, a liquid, or a gas? LINK 7. Just how small is an atom? LINK 	
<p>Suggested Online Courses</p> <ol style="list-style-type: none"> 1. MOOC:Capstone Chemistry and Technology for Sustainability LINK 2. MOOC:Analytical Chemistry LINK 3. MOOC:Medicinal Chemistry: The Molecular Basis of Drug Discovery LINK 4. Future Learn: Atmospheric Chemistry: Planets and Life Beyond Earth LINK 5. Future Learn: Chemical Products LINK 6. Future Learn: Exploring Everyday Chemistry LINK 	

Additional useful links

RSC: Useful problem solving and improve your Chemistry Knowledge: [LINK](#)

STEM: Starters for Ten [LINK](#)

CGP: GCSE science apps [LINK](#)

ChemMatters: Organic Chemistry and Biochemistry [LINK](#)

ChatterPack: Home Learning Resources (Science) [LINK](#)

Balancing equation [LINK](#)