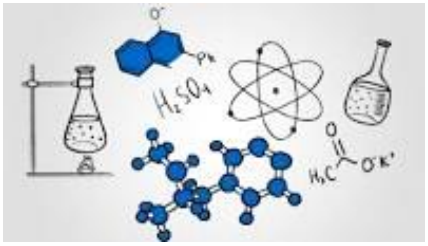

Unit 3 Chemistry Holiday Homework 2018

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VCAA - links	
Study Design - http://www.vcaa.vic.edu.au/Documents/vce/chemistry/ChemistrySD-2016.pdf	
How can chemical processes be designed to optimise efficiency?	Page 25 of Study Design
Past Exams - http://www.vcaa.vic.edu.au/Pages/vce/studies/chemistry/exams.aspx	
Data Book - http://www.vcaa.vic.edu.au/Documents/exams/chemistry/chemdata-w.pdf	
Edrolo - https://edrolo.com.au/	Compass Resources – Homework and Course Outline
Chemistry Education Association http://www.cea.asn.au/vce-chemistry	

Chemistry is a practical subject. VCAA require about 5 hours for pracs and investigations testing outcomes. Outcomes (SACs) are practical work, completed and written up, followed by an assessment task based on the prac. Course follows the chapters in 5th Edition Pearson Heinemann Chemistry 2

Suggested revision of year 11 work

1: Write formulae and balance equations

Example

Sodium + sulphuric acid → magnesium sulphate + hydrogen

$2Na\ (s) + H_2SO_4\ (aq) \rightarrow Na_2SO_4(aq) + H_2(g)$

Practice here - https://www.thoughtco.com/balancing-equations-practice-quiz-4085427

And here - http://www.sciencegeek.net/APchemistry/APtaters/EquationBalancing.htm

There are plenty of other sites as well.

2: Moles → Mass conversion and **Mass → Moles** conversion

Examples

1. What is the mass of 4.0 moles of sodium (Mr = 23)?

Ans → number of moles(n) x molar mass (M_r) = mass in grams (m), $n \times M_r = m$

4.0 x 23 = 92 grams

2: How many moles are in 22 grams of carbon dioxide (CO_2 Mr = 44)?

Ans → number of moles(n) = mass(m)/ molar mass (M_r), $n = \frac{m}{Mr} = \frac{22}{44} = 0.5\ mol$

More examples - http://www.ausetute.com.au/massmole.html

Practice here -http://www.sciencegeek.net/Chemistry/taters/Unit4MoleConversion.htm

3: Organic Chemistry

Revise naming alkanes, alkenes, alkynes, alcohols, and carboxylic acids (up to 8 carbon atoms)

Intro here - https://www.wikihow.com/Name-Organic-Compounds-(Simple)

Practice here - http://www.dynamicscience.com.au/tester/solutions1/chemistry/organic/namingorganic.htm

4. Redox reactions and Galvanic cells (Khan Academy Videos)

Redox Reactions

Galvanic Cells – watch the series (Extension – link to standard Cell Potentials)

Suggested homework for Year 12 – Read Chapter 1	Types of fuels - Fossil fuels and biofuels Compared in terms of energy content, energy transformations and efficiencies, renewability and environmental impact. Biodiesel Production Video https://www.youtube.com/watch?v=Zph5usgWkN0