Wyggeston & Queen Elizabeth I College

Chemistry A Level

Get ready for a successful start!

What will I study?	**Chemistry is the scientific study of the properties of behaviour and matter.** You will be studying the AQA A Level Chemistry Specification which can be found here: AS and A-level Chemistry Specification Specifications for first teaching in 2015
Who teaches this course?	You will be taught by our team of experienced specialist Chemistry teachers.
What resources or equipment will I need?	You will be provided with information booklets and access to a digital textbook. To each lesson you will need to bring: ▪ a pen ▪ a pencil ▪ lined paper ▪ a ruler ▪ highlighters ▪ a scientific calculator ▪ a folder to keep your notes and resources organised A curious mind!
	Books AQA Chemistry, A Level Year 1 and AS textbook, ISBN 9780198351825 CGP A Level Chemistry Revision Guide, ISBN: 9781789080292 Online Past exam questions: AQA A-level Chemistry Revision - PMT A level Chemistry topic videos: Eliot Rintoul or Allery Chemistry Eliot Rintoul - YouTube Allery Chemistry - YouTube

How can I extend my learning?	Your first topics when you start the course will be about the structure of the atom and mole calculations. To help you prepare for these, complete some advanced learning on these two topics using the guidance in the AQA specification linked above.

Taster Activity: To be completed and brought to your first lesson

Resources needed to complete the activity:	Internet access
Estimated time to complete the activity:	2 hours

Task:

Complete the two attached worksheets about atomic structure.

ATOMIC STRUCTURE (A)

1 This question is about the structure of atoms.

a Name the three particles that are found inside atoms.

.....

b Which of these particles are found inside the nucleus of the atom.

.....

c Which of these particles is neutral? .....

d Which of these particles has a negative electric charge? .....

e Which of these particles has a positive electric charge? .....

2 This question is about $^{27}_{13}Al$ atoms.

a How many protons, neutrons and electrons are in this atom?

protons = ... neutrons = ... electrons = ...

b What is it that makes this an atom of aluminium? .....

.....

3 Geiger and Marsden carried out an experiment where they fired alpha particles at a thin piece of gold. A small number of alpha particles were deflected or bounced back. This experiment led to Rutherford developing a new model of the atom.

a Why do most of the alpha particles pass straight through the gold atoms? .....

.....

.....

b Why do some of the alpha particles deflect or bounce back? .....

.....

.....

c Give two key differences between Rutherford's model of the atom and the Thomson's plum pudding model that it replaced.

1.....

2.....

4 **a** Define the term atomic number. .....

b Define the term mass number. .....

ATOMIC STRUCTURE (B)

1 This question is about $^{23}_{11}Na$ atoms.

a How many protons, neutrons and electrons are in this atom?

protons = ... neutrons = ... electrons = ...

b What is the atomic number of this atom? .....

c What is the mass number of this atom? .....

d The diameter of this atom is 360 pm. State this in metres in standard form. .....

2 There are two isotopes of copper, which are shown in the table.

Isotope	$^{63}_{29}Cu$	$^{65}_{29}Cu$
Abundance	69.2%	30.8%

a Calculate the relative atomic mass of copper. .....

.....

.....

.....

.....

.....

b Explain why they are both atoms of copper. .....

.....

c State similarities and differences between these atoms in terms of their numbers of protons, neutrons and electrons.

similarities .....

.....

differences .....

.....