

BTEC Applied Science Transition work 2020



Applied Science

Welcome!

- This presentation contains activities to prepare you to start BTEC Applied Science in September. It is aimed to be used throughout the remainder of the Summer term and over the Summer Holidays to ensure you are ready to start your course in September.
- If you have a GCSE Science revision guide don't discard it, you can use it to help you prepare!

How is BTEC Applied Science organised?

- At Caludon, we complete the Pearson BTEC level 3 Extended Certificate in Applied Science. This is the equivalent of one A-level.
- In the first year you complete Unit 1 and 2. Unit 1 is based on scientific theory from Chemistry, Biology and Physics and how this is applied to the world around us, this is examined. Unit 2 is coursework based and consists of 4 tasks relating to Analytical Chemistry. You then complete a further 2 units in the second year which involve both internal and external assessment.
- The full specification can be found here, if you wish to access it:
<https://qualifications.pearson.com/en/qualifications/btec-nationals/applied-science-2016.html>

NB: You will need to select 'Extended Certificate' in the drop down menu.

Some preparation you can do.....

What follows are a few research tasks you could do to help you prepare for Year 12.

CHEMISTRY

To start with, have a look at the following topics (on the next slide), either in your revision guide or using the internet (Bitesize is always good). This is a list of GCSE topics that will give you a feel for the kind of topics you will cover in more detail. There will be more and, unfamiliar topics for you to cover later, when the course starts.

Chemistry topics

- Atoms, elements, compounds
- Electronic structure
- Groups in the Periodic Table
- Structure and Bonding
- Moles
- Strong and weak acids
- Reactions of acids

This list is just a starting point, we cover them in more detail during the course.

Chemistry Task

Unit 2 is centred around independent research and developing practical skills. With this in mind, try researching the following and putting together a piece of work (no longer than two sides) that describes and explains the use of the following:

1. Titrations
2. pH meters
3. Colorimetry
4. Chromatography (particularly thin layer, TLC)

Avoid the dreaded copy and paste and reference websites and books.

Biology

- The Biology topic for you to focus on is **cells**. Have a read of the following:

Prokaryotic and **eukaryotic** cells can be distinguished on the basis of their **structure** and **ultrastructure**. Cells are organised into tissues, tissues into organs and organs into systems. During the cell cycle, genetic information is passed to daughter cells. Daughter cells formed during **mitosis** have identical copies of genes while cells formed during **meiosis** are not genetically identical.

This website may help with the task, but you can use any resources!

<https://www.s-cool.co.uk/a-level/biology/cells-and-organelles>

Biology Task

- Produce a one page revision summary that you could share in September on **one** of the following:
- Cells and cell ultrastructure
- Prokaryotes and Eukaryotes
- Mitosis and Meiosis

Your summary can include labelled diagrams, keywords and explanations and you can use any online resources.

Physics Task

- We study Physics in unit 1 of the course and there is a focus on **Waves**. For this task you are just going to look at one area that you are probably already familiar with!
- Produce a **factsheet** on **optical fibres**. Include the applications of fibre optics in medicine and communication (broadband), diagrams, pictures and definitions.

Thanks for completing the Transition Work!

- Having completed the tasks set, we hope that gives you a flavour of the topics you will study.
- If you should have any questions about the course please contact Mrs Robertson at:

strobotsond@caludoncastle.co.uk

Hope to see you in September!