



EXTENDED CERTIFICATE IN APPLIED SCIENCE

Exam board: Pearson

Specification: available from the Pearson website

<https://qualifications.pearson.com/en/qualifications/btec-nationals/applied-science-2016.coursematerials.html#%2FfilterQuery=category:Pearson-UK:Category%2FSpecification-and-sample-assessments>

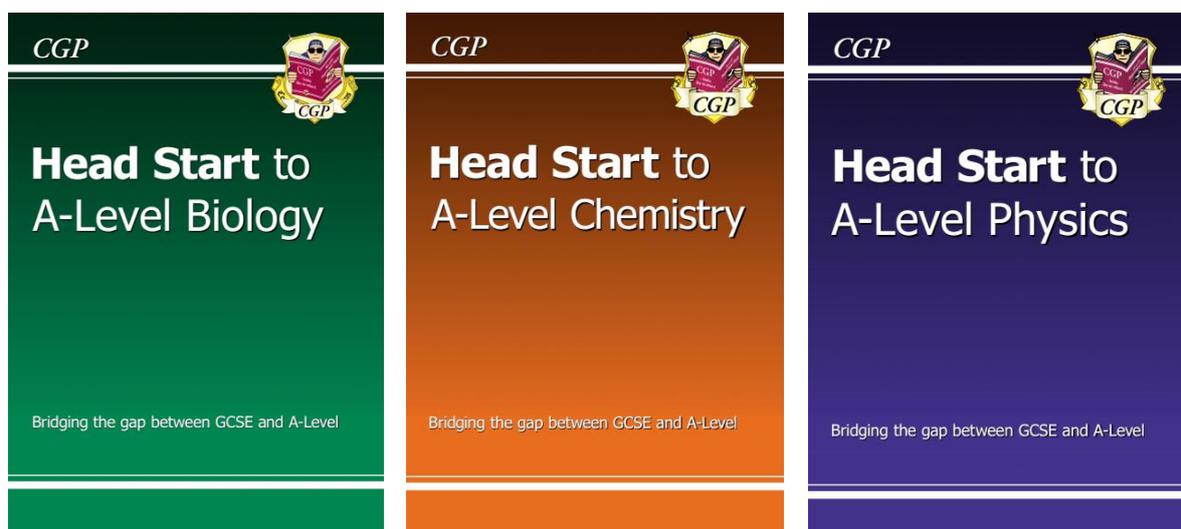
Pre-course learning task

Studying 6th form Science is significantly more challenging than at GCSE level. The amount of information that must be learnt and remembered is much greater and the concepts studied much more complicated. The Extended Certificate in Applied Science has the added complication of covering material from all three Sciences: Biology, Chemistry and Physics. Typically, students find the transition from GCSE to 6th form difficult.

For students beginning their 6th form studies in autumn 2020, the transition is particularly challenging due to the disruption caused by the coronavirus pandemic. It is essential that these students spend a considerable amount of time in the months leading up to the start of their 6th form studies preparing for their new courses.

The task you are required to complete before September is outlined below. This work will be collected and assessed in the first week of your 6th form studies. This is a sizeable task that will take many hours to complete to an adequate standard. It is sensible to spread the work out over the time you have between now and September. Planning a schedule/ timetable and setting yourself a weekly target will be very helpful.

You will need access to the three books shown below: 'New head start to A-level Biology (CGP A-level Biology)', as well as the Chemistry and Physics versions.



These are currently available to download for free from Amazon at:

Biology <https://www.amazon.co.uk/Head-Start-level-Biology-Level/dp/1782942793>

Chemistry <https://www.amazon.co.uk/Head-Start-level-Chemistry-Level-ebook/dp/B00VE2NIGG>

Physics <https://www.amazon.co.uk/Head-Start-level-Physics-Level/dp/1782942815>

A free app to read the books can be downloaded from the same webpage, or download the kindle app for free from your app store.

Your task is to work through the sections of the books detailed below, making notes and answering all the questions at the bottom of each page.

You will need to hand in your notes and answers in the first week of the new academic year.

Biology: Pages 6-10, Section 2, Cell structure
Pages 11-16, Section 3, Genetics & cell division
Page 30, Section 8, Plants
Pages 31-33, Section 9, Investigating and interpreting

Chemistry: Pages 1-5, Section 1, The structure of the atom
Pages 6-8, Section 2, Formation of ions
Pages 9-10, Section 3, Intermolecular bonding
Pages 11-17, Section 4, Bonding and properties

Page 18, Section 5, Chemical equations
Pages 37-40, Section 11, Calculations

Physics: Page 1, Section 1, Symbols and units
Pages 32-36, Section 5, Waves
Pages 39-41, Section 7, Investigating and interpreting

In addition to the book, there are several useful resources that will assist you with this work and your preparation for 6th form study in general:

1. Machede videos. These are excellent videos produced by an A-level Chemistry teacher that explain many of the concepts covered in the Head start book. They can be found here:
<https://www.youtube.com/playlist?list=PLi6oabjl6coxUlfu8syK3K0iFXQJiwDUM&app=desktop>
2. Chemguide website. This is an excellent resource with very clear explanations. It can be found here: <https://www.chemguide.co.uk/>
3. A playlist of Biology videos can be found below. These will help with the tasks set from the Head start book and also give you a better idea of the overall Biology content covered.
https://www.youtube.com/playlist?list=PLLCQesGbl_kU0EfQ_m385bUjpDCb-zWVN
4. S-cool <https://www.s-cool.co.uk/a-level/biology>
5. Seneca website. Select the 'Applied Science: BTEC Level 3' course at:
<https://www.senecalearning.com/>