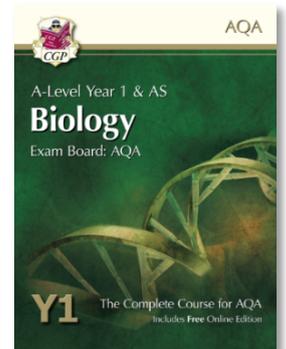


A-level Biology



A-level Biology

Welcome! At Woking college, we use the **AQA specification** for A-Level Biology.

The content is divided into 8 topics over two years:

- | | |
|---------------------------|-----------------------------|
| 1) Biological Molecules | 5) Energy Transfers |
| 2) Cells | 6) Stimuli and Responses |
| 3) Exchange of Substances | 7) Genetics and Populations |
| 4) Genetic Information | 8) Gene Expression |

Prospectus information: You can find more information about A-level Biology at Woking College, and the GCSE entry requirements for the course at the college website:

<https://woking.ac.uk/courses/full-time-a-levels/science-mathematics-computing/biology/>

Specification and exam papers: You can find a copy of the A-level specification and past exam papers at the AQA website:

<https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402>

Textbooks: After you enrol on the course, you will need to purchase textbooks.

We use the CGP A-level books, and some students also like to have the Oxford books to provide further detail. To see a bit more of what the textbooks are like – use the ‘look inside’ feature on Amazon.

CGP A-level Biology: <https://www.amazon.co.uk/Level-Biology-AQA-Student-Online/dp/1782943145>

Oxford A-level Biology: <https://www.amazon.co.uk/AQA-Biology-Level-September-2015-ebook/dp/B0868MQGPQ>

We recommend you don't purchase textbooks before enrolling at college. If you purchase your CGP textbooks through college, we can normally get a large discount for you.

Summer activities

The rest of this page contains suggestions for things you can do to keep you engaged with biology over the summer. The number of bees in the nearby table indicates the level of challenge of each task.

Choose whichever task is most appealing to you, and do more than one if you want. Most importantly – have fun!

We'd like you to bring your investigation(s) to enrolment in August.

If you'd like to get in touch with any questions about the work, the A-level Biology course or Woking College in general, please email Rob Harris at rha@woking.ac.uk.

Have a good summer and hope to see you in the Autumn!

	<p>A step up from GCSE, review existing knowledge or investigate and organism of your choice.</p>
	<p>A more challenging task that gives you a taste of some of the topics and skills required for A-level Biology</p>
	<p>This is a larger project that will require a bigger investment of time, but with more flexibility.</p>



Biological diversity and written communication

One of the most important skills to develop in biology is clear and precise communication in writing.

1. Watch all or part of one of these biology videos from the BBC iPlayer collection.
2. Choose an organism – plant or animal – shown in the programme.
3. By researching online, find out a bit more about your chosen organism and write a paragraph of around 300 - 500 words describing the organism's habitat (where it lives), any unusual adaptations it has and why you find it particularly interesting. *Make sure to underline any keywords you didn't know before doing this task and explain any of these words clearly in your summary.*

Sir David Attenborough box sets: <https://www.bbc.co.uk/iplayer/group/p06m42d9>

Dynasties: <https://www.bbc.co.uk/iplayer/episodes/p06mvmmr/dynasties>

Earth's Tropical Islands: <https://www.bbc.co.uk/iplayer/episodes/m000cs07/earths-tropical-islands>

Life and Death on your Lawn: <https://www.bbc.co.uk/programmes/b08xygcs>

Animal Babies: <https://www.bbc.co.uk/iplayer/episodes/m00072mt/animal-babies-first-year-on-earth>

Animals at Play: <https://www.bbc.co.uk/iplayer/episodes/m00077gh/animals-at-play>

Snow Animals: <https://www.bbc.co.uk/programmes/m000ct6y>

Biology Transition Guide

A-level Biology builds on your knowledge from GCSE and requires you to develop new scientific skills.

This document has been designed by an exam board to help you review your existing knowledge, preview some A-level content and practice some of the skills you'll need to develop.

<https://bit.ly/EdexcelBiologyTransition>



You can check your GCSE Biology knowledge using the questions on **pages 7 – 18**. You can see some examples of good answers and common errors on **pages 19-24**.



If you want to get a taste of some A-level content and skills, try one of the sections on **cells**, **molecules** or **human biology**. For each topic, the booklet contains A-level content, one or two skills activities and a short test to check your understanding.

Read the information pages first, then do the comprehension activities before trying the test.

- For **cells**, look at pages **27-37**
- For **molecules**, look at pages **40 - 46**
- For **human biology**, look at pages **49 - 56**



Independent research project

How about designing and carrying out your own research project and potentially winning an award?

CREST awards are a nationally recognised scheme for student-designed projects in science, technology, and engineering. The aim is to encourage young scientists to design and carry out their own projects to develop scientific thinking skills. CREST is run by the British Science Association. It costs £10 to enter for a CREST award, but you are very welcome to complete a project and bring it along to enrolment without entering for the actual award.

There are three levels of award: Bronze, Silver and Gold. In year 11, you should be looking at the Silver level of award.

1. Visit the CREST website at <https://www.crestawards.org/crest-silver>
2. Read the links about 'Silver student guides' and the 'What's expected at Silver level, with examples', so you know the level of detail required and what the assessor will be looking for in your work.
3. **Choose a project:** Click the link for 'resource library'. Look at the projects in the 'biology', 'environment, plant & animals' or 'healthy living and medicine' tabs. Many of these projects need a school lab, but they will show you that you can investigate almost anything! I've put in some other suggestions below, but the best thing about this project is that you are free to come up with your own topic.
 - a. **Bee behaviour** – Research the different species of UK bees. Which ones can you find near where you live? Do certain species of bee prefer certain colours, shapes or species of flowers? You could gather data to see if the weather or time of day affect the number of bees in an area. What might be the reasons for these differences?
 - b. **Coronavirus** – Where does the name coronavirus come from? How does the virus spread between people and cause disease in people that become infected? Why do the different pieces of health advice that the government has told people to follow work to reduce the spread or danger of the disease? Do you think the different types of communication from the government (speeches, posters, radio/TV advertisements, social media) have been clear and easy for people to understand? Which ones are better and why? You could create an online survey to see what your friends and family think. Does everyone have the same opinion? If not, are there patterns in which communications people prefer (maybe younger people prefer different kinds of communication from older people?).
 - c. **Milk alternatives** – What alternatives are there for people that don't want to drink standard cow's milk? What are the reasons that people want or need alternatives? How does the nutritional content of different milk alternatives compare? Are some better or worse for people's health? Why? Are some better or worse for the environment? Why? If you are able to, you could see if milk alternatives taste different from one another – which do you prefer? Do other people in your household agree?