# *AQA Biology*

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Biology is an interesting subject to study at advanced level as it provides an understanding of life at all levels from molecules and cells to ecosystems and the biosphere. Students who embark on A-level Biology should be able to apply their knowledge from GCSE Biology to solve problems in familiar and less familiar contexts.

The transition between GCSE and A-level is large, the tasks in this summer work aim to check and secure your knowledge of GCSE Biology; and enable you to get to grips with some new terminology.

In year 12 Biology there are 4 topics:

1. Biological molecules
2. Cells
3. Organisms exchange substances with their environment
4. Genetic information, variation and relationships between organisms

As part of this summer work, you will complete two tasks on Seneca. They will aim to:

1. Secure your GCSE knowledge, it is important to have a solid foundation to build on. If you find any topics tricky, **we suggest that you produce a concept map** to review and secure your GCSE Biology knowledge. Here is a link to the AQA GCSE Biology specification for reference:

   https://filestore.aqa.org.uk/resources/biology/specifications/AQA-8461-SP-2016.PDF

2. Prepare you for studying A-level Biology.

TASK 1: Follow the link below to view the AQA A-level Biology specification, you should print out pages 8 & 9 (they give you an overview of the course and assessment) for the front of your A-level Biology file.

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

TASK 2: Click the link to join Seneca or add in the class code below.

https://app.senecalearning.com/dashboard/join-class/jw4hhyfdk6

Class code jw4hhyfdk6

There are two assignments for you to complete on Seneca:

1. GCSE Knowledge Check
2. A Level Taster

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TASK 3: As an A-level Biology student it is important that you become confident and competent at working in the laboratory. Use the link below to look at the AQA Practical handbook, page 9-10, 18 – 24, and answer the questions below.

Practical handbook (aqa.org.uk)

1. What are CPACs?
2. How many CPACs are there? What do they assess?
3. Why is it important to keep a lab book?
4. What would you expect to be in a lab book?
5. What is the minimum number of practicals a student should complete to gain endorsement?
6. Who is practical endorsement assessed by?
7. Write a glossary of the following key terms: accuracy, precision, reliability, validity, reproducible, repeatable, resolution, magnification, true value, uncertainty, categoric, continuous, control experiment, control variables, independent variable, dependent variable.

TASK 4: Read

As an A level Biologist it is important to read outside of the specification using journals like New Scientist, this will help with the Essay at the end of paper 3. For this task you are to read the article and summarise its key points.

Talking T Cells (rsb.org.uk)

TASK 5: Watch/Listen

How one gene determines the fate of a food web (Ep 89) - Big Biology | Podcast on Spotify

Listen to the podcast about how genes within one species can have an effect on a whole food web

Your Seneca scores and an assessment on the Seneca content (second week in September), the assessment will cover Natural selection, immune system, cells, tissues and organs, respiration and protein synthesis from GCSE. The assessment may also have questions relating to the A Level content on Protein structure, Nucleotides (DNA/RNA) and ATP. It will establish whether the course is right for you. A level Biology is a challenging subject so you must be prepared to work hard in preparing and throughout the course.