# BIOLOGY (SEPARATE) GCSE : Year 10 Exam

For your actual **GCSE exams (Summer 2027)** in biology you will sit 2 x 1hr45min written exam papers.

**For your year 10 exam you will sit a single exam in the style of a paper 1 (100 marks in 1hr 45mins).** The following list outlines the topics required for paper 1.

You can find and download the full AQA specification at:

GCSE Biology 8461 | Specification | Specification At A Glance | AQA

The subject content is listed from units 4.1 to 4.7 starting at page 14. Use the specification and the list below to ensure that you cover the correct content.

*The following general science skills may also be required:*

- Identify independent variable/dependent variable/control variables in investigations
- Risk assessment – working safely during practical activities
- Collecting and presenting data in a table (column order/headings with units/ calculating a mean average from repeat measurements)
- Graph skills (choosing appropriate type/axes label and unit/ even, linear scale/ line of best fit)
- Describing patterns/trends in data from tables and graphs (including identifying anomalous data)
- Mathematical skills such as use of formula/rearranging formula, calculating percentage change, unit conversion, use of standard form, appropriate rounding of values, significant figures

Ensure that you pay particular attention to the required practicals (highlighted in yellow) as these usually make up 10% or more of the marks on the papers. You need to know/understand the method and how to interpret and draw graphs of the results. You DO NOT need to remember any results (and it doesn't matter if you were absent/missed the class practical).

**How to revise:**

**Make use of your class notes**- look back through and find the relevant work. Use the topic checklists (knowledge organisers). Don't forget to look at your previous topic tests too…what were the bits that you struggled with most at the time? These areas should be a revision focus for you.


**Access the GCSE Biology digital textbook** by logging on to www.kerboodle.com *(you have your own login details…ask any science teacher if you are unsure).* Read the relevant pages.

www.BBCbitesize.com has some great AQA GCSE revision resources too.

**Watch** revision videos online, such as 'FreeScience' to summarise the key points of topics.

**Write your own summary notes** (bullet points of the key ideas /keywords list with definitions/ annotated diagrams/ mind-maps or flash cards) to go over the main content of each topic.

www.Senecalearning.com is a free online revision platform that is great for reviewing content too.

www.physicsandmathstutor.com has lots of practice exam style questions and mark schemes, grouped by topic, that you should try once you have revised the content.

| Paper 1: | |
|---|---|
| 4.1.1.1 | Eukaryotes and prokaryotes |
| 4.1.1.2 | Animal and plant cells – organelle types and functions |
| 4.1.1.3 | Cell specialisation – types of specialised cells (adaptations/functions) |
| 4.1.1.4 | Cell differentiation – becoming specialised, turning genes on/off |
| 4.1.1.5 | Microscopy – types of microscope, resolution, IAM calculations |
| 4.1.1.2 | RP1: Microscopes (using a light microscope) |
| 4.1.1.6 | Culturing microorganisms |
| 4.1.1.6 | RP2: Bacterial growth (aseptic technique) |
| 4.1.2.1 | Chromosomes |
| 4.1.2.2 | Mitosis and the cell cycle |
| 4.1.2.3 | Stem cells – animal adult and embryonic, plant meristem |
| 4.1.3.1 | Diffusion |
| 4.1.3.2 | Osmosis |
| 4.1.3.2 | RP3: Osmosis |
| 4.1.3.3 | Active transport |
| 4.2.1.0 | Principles of organisation |
| 4.2.2.1 | The human digestive system – organs and digestive enzymes |
| 4.2.2.1 | RP5: Enzymes (factors affecting the rate of enzyme reactions) |
| 4.2.2.1 | RP4: Food tests (Iodine, Benedict's, Biuret) |
| 4.2.2.2 | The heart and blood vessels |
| 4.2.2.3 | Blood |
| 4.2.2.4 | Coronary heart disease: a non-communicable disease |
| 4.2.2.5 | Health issues |
| 4.2.2.6 | The effect of lifestyle on some non-communicable diseases |
| 4.2.2.7 | Cancer |
| 4.2.3.1 | Plant tissues |
| 4.2.3.2 | Plant organ system – xylem (transpiration stream) and phloem (translocation) |
| 4.3.1.1 | Communicable (infectious) diseases |
| 4.3.1.2 | Viral diseases |
| 4.3.1.3 | Bacterial diseases |
| 4.3.1.4 | Fungal diseases |
| 4.3.1.5 | Protist diseases eg. Malaria |
| 4.3.1.6 | Human defence systems – primary and secondary defences |
| 4.3.1.7 | Vaccination – artificial immunity |
| 4.3.1.8 | Antibiotics and painkillers – treating diseases |
| 4.3.1.9 | Discovery and development of drugs – laboratory and clinical trials |
| 4.3.2.1 | Producing monoclonal antibodies |
| 4.3.2.2 | Uses of monoclonal antibodies |
| 4.3.3.1 | Detection and identification of plant diseases |
| 4.3.3.2 | Plant defence responses |
| 4.4.1.1 | Photosynthetic reaction |
| 4.4.1.2 | Rate of photosynthesis |
| 4.4.1.2 | RP6: Photosynthesis (factors affecting the rate of photosynthesis) |
| 4.4.1.3 | Uses of glucose from photosynthesis |
| 4.4.2.1 | Aerobic and anaerobic respiration |
| 4.4.2.2 | Response to exercise |
| 4.4.2.3 | Metabolism |