AQA GCSE Biology Paper 1 checklist

How to use this checklist

Paper 1 covers topics 1 to 4. GCSE Biology (8461) Paper 1 is 1 hour 45 minutes for 100 marks. Combined Science: Trilogy (8464) Biology Paper 1 is 1 hour 15 minutes for 70 marks. For June 2027 both are on Tuesday 11 May 2027, in the morning: check AQA's key dates for the current date.

The flags come from AQA's labels "(HT only)" and "(biology only)" in the specification. "Part" means only part of the sub-topic is labelled; the notes under each table say which part. Foundation students can skip "Yes" in the Higher only column. Trilogy students skip every row marked "Yes" in the Biology only column. Tick "Revised" when you've learned a row and "Practised" when you've answered exam questions on it.

Topic 1: Cell biology

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised
4.1.1.1	Eukaryotes and prokaryotes	No	No		[ ]	[ ]
4.1.1.2	Animal and plant cells	No	No	RP1 (Trilogy 1)	[ ]	[ ]
4.1.1.3	Cell specialisation	No	No		[ ]	[ ]
4.1.1.4	Cell differentiation	No	No		[ ]	[ ]
4.1.1.5	Microscopy	No	No		[ ]	[ ]
4.1.1.6	Culturing microorganisms	Part: standard form	Yes	RP2 (Biology only)	[ ]	[ ]
4.1.2.1	Chromosomes	No	No		[ ]	[ ]
4.1.2.2	Mitosis and the cell cycle	No	No		[ ]	[ ]
4.1.2.3	Stem cells	No	No		[ ]	[ ]
4.1.3.1	Diffusion	No	No		[ ]	[ ]
4.1.3.2	Osmosis	No	No	RP3 (Trilogy 2)	[ ]	[ ]
4.1.3.3	Active transport	No	No		[ ]	[ ]

Note: in 4.1.1.6, the only Higher-only part is giving the answer to a bacterial population calculation in standard form.

Topic 2: Organisation

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised
4.2.1	Principles of organisation	No	No		[ ]	[ ]
4.2.2.1	The human digestive system	No	No	RP4 and RP5 (Trilogy 3 and 4)	[ ]	[ ]

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised
4.2.2.2	The heart and blood vessels	No	No		[ ]	[ ]
4.2.2.3	Blood	No	No		[ ]	[ ]
4.2.2.4	Coronary heart disease: a non-communicable disease	No	No		[ ]	[ ]
4.2.2.5	Health issues	No	No		[ ]	[ ]
4.2.2.6	The effect of lifestyle on some non-communicable diseases	No	No		[ ]	[ ]
4.2.2.7	Cancer	No	No		[ ]	[ ]
4.2.3.1	Plant tissues	No	No		[ ]	[ ]
4.2.3.2	Plant organ system	No	No		[ ]	[ ]

Topic 3: Infection and response

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised
4.3.1.1	Communicable (infectious) diseases	No	No		[ ]	[ ]
4.3.1.2	Viral diseases	No	No		[ ]	[ ]
4.3.1.3	Bacterial diseases	No	No		[ ]	[ ]
4.3.1.4	Fungal diseases	No	No		[ ]	[ ]
4.3.1.5	Protist diseases	No	No		[ ]	[ ]
4.3.1.6	Human defence systems	No	No		[ ]	[ ]
4.3.1.7	Vaccination	No	No		[ ]	[ ]
4.3.1.8	Antibiotics and painkillers	No	No		[ ]	[ ]
4.3.1.9	Discovery and development of drugs	No	No		[ ]	[ ]
4.3.2.1	Producing monoclonal antibodies	Yes	Yes		[ ]	[ ]
4.3.2.2	Uses of monoclonal antibodies	Yes	Yes		[ ]	[ ]
4.3.3.1	Detection and identification of plant diseases	Part: detection lists	Yes		[ ]	[ ]
4.3.3.2	Plant defence responses	No	Yes		[ ]	[ ]

Note: in 4.3.3.1, the Higher-only part is AQA's two lists: the signs used to detect plant disease (such as stunted growth, spots on leaves and discolouration) and the ways to identify it (a gardening manual or website, a laboratory, or a testing kit that uses monoclonal antibodies).

Topic 4: Bioenergetics

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised

Code	Sub-topic	Higher only	Biology only	Practical	Revised	Practised
4.4.1.1	Photosynthetic reaction	No	No		[ ]	[ ]
4.4.1.2	Rate of photosynthesis	Part: limiting factors	No	RP6 (Trilogy 5)	[ ]	[ ]
4.4.1.3	Uses of glucose from photosynthesis	No	No		[ ]	[ ]
4.4.2.1	Aerobic and anaerobic respiration	No	No		[ ]	[ ]
4.4.2.2	Response to exercise	Part: oxygen debt	No		[ ]	[ ]
4.4.2.3	Metabolism	No	No		[ ]	[ ]

Note: in 4.4.1.2, the Higher-only parts are how the factors interact so that any one can limit the rate, graphs with two or three factors, the inverse square law for light intensity, and the economics of adding heat, light or carbon dioxide to greenhouses. In 4.4.2.2, they are how blood carries lactic acid to the liver, where it is turned back into glucose, and the definition of oxygen debt.

Required practicals on Paper 1

Practical	GCSE Biology	Trilogy
Light microscope: observe, draw and label plant and animal cells	1	1
Antiseptics or antibiotics and bacterial growth	2 (Biology only)	Not in Trilogy
Salt or sugar solutions and the mass of plant tissue	3	2
Food tests: Benedict's, iodine and Biuret	4	3
pH and the rate of reaction of amylase	5	4
Light intensity and the rate of photosynthesis	6	5

From the AQA GCSE Biology Paper 1 guide on medlyai.com.