AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
01.1	A – cell wall B – cell membrane C – cytoplasm D – chloroplast E – vacuole F – nucleus		1 1 1 1 1 1	AO2 4.1.1.2
01.2	chloroplast		1	AO1 4.1.1.2
01.3	control the cell / contain genetic material		1	AO1 4.1.1.1
01.4	cell wall		1	AO2 4.1.1.2
02.1	nucleus – both cell wall – plant only cytoplasm – both vacuole – plant only		1 1 1 1	AO1 4.1.1.2

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
02.2	nucleus – contains genetic material and controls the cell mitochondria – where respiration occurs chloroplast – where photosynthesis occurs vacuole – contains cell sap to keep the cell firm cell membrane – controls what comes in and out of a cell	4 marks for all correct 3 marks for three correct 2 marks for two correct 1 mark for one correct	4	AO1 4.1.1.1
02.3	(electron / light) microscope		1	AO1 4.1.1.5
03.1	A cell that is adapted / has special features to perform a particular function		1	AO1 4.1.1.3
03.2	To contract (and relax)		1	AO1 4.1.1.3
03.3	Any **one** from: • Digestive system • to squeeze food along the gut • In the heart • so heart can contract to pump blood around the body	Answer should include a muscle location, with a description of their role in that location	1 1	AO1 4.1.1.3
03.4	Mitochondria is where respiration occurs Respiration releases energy for muscles to contract		1 1	AO1 4.1.1.3

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
03.5	Contain proteins / actin and myosin That slide over one another to cause the cell to contract **Or** Store glycogen Which can be broken down (into glucose) and used for respiration		1 1	AO1 4.1.1.3
04.1	wear gloves / wash hands / disinfect work surfaces / dispose of used swabs		1	AO1 4.1.1.5
04.2	nucleus		1	AO2 4.1.1.2
04.3	makes nucleus / subcellular structures more visible		1	AO1 4.1.1.5
04.4	use a higher power objective lens		1	AO1 4.1.1.5
05.1	functions nerve impulses sperm muscle movement		1 1 1 1 1 1	AO1 4.1.1.3

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
05.2	differentiation		1	AO1 4.1.1.4
05.3	root hair cell / xylem / phloem / palisade cell	Accept other plant specialised cell	1	AO1 4.1.1.3
06.1	cell wall cytoplasm		1 1	AO1 4.1.1.1 4.1.1.2
06.2	to provide movement		1	AO1 4.1.1.3
06.3	Any **one** from: • bacteria has no nucleus / presence of plasmid / no vacuole • bacterial cell is much smaller	Accept reverse argument	1	AO2 4.1.1.1 4.1.1.2
06.4	bacterial cell as no nucleus is present / presence of plasmid	Reason required for mark	1	AO1 4.1.1.2
07.1	plant		1	AO1 4.1.1.3
07.2	to absorb water		1	AO1 4.1.1.3

Question	Answers	Extra information	Mark	AO / Specification reference
07.3	large maximise chloroplasts unable		1 1 1 1	AO1 4.1.1.3
08.1	**Level 3:** Valid method described that would lead to clear observation of cheek cells. Appropriate apparatus given either as a list of named within the method.		5–6	AO1 4.1.1.5
	Level 2: Appropriate method given that would lead to observation of cheek cells OR incomplete attempt at a valid method provided and some equipment named.		3–4	
	Level 1: An incomplete attempt at valid method given.		1–2	
	No Relevant content		0	
	Indicative content • apparatus: Cotton swab, a microscope slide, tweezers, a coverslip, mounted needle, a microscope, stain (such as methylene blue) • Wipe inside of the cheek with a cotton swab • Smear cotton swab on the centre of the microscope slide • Add a drop of stain • Carefully lower a coverslip onto the slide. • Use filter paper to soak up any liquid from around the edge of the coverslip. • Put the slide on the microscope stage at its highest setting • Choose the lowest powered objective lens • Carefully lower slide using focusing knob until the cells come into focus • For more detail repeat with higher power objective lens			

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
08.2	Cell membrane Nucleus Cytoplasm	Allow additional label to mitochondria	1 1 1	AO2 4.1.1.5 4.1.1.2
08.3	Magnification used		1	AO2 4.1.1.5
08.4	The smallest object which can be viewed under a microscope		1	AO1 4.1.1.5
08.5	By using an electron microscope		1	
09.1	microscope with scale		1	AO2 4.1.1.5
09.2	1 mm		1	AO2 4.1.1.1
09.3	125 µm		1	AO3 4.1.1.1
09.4	ignore when calculating a mean / repeat the measurement		1	AO3 4.1.1.1
10.1	A		1	AO2 4.1.1.5 4.1.1.2

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
10.2	Where protein synthesis takes place / proteins are made		1	AO1 4.1.1.2
10.3	Mitochondria		1	AO2 4.1.1.2
10.4	• Apparatus: Plant, a knife or scalpel, a microscope slide, tweezers, a coverslip, mounted needle, a microscope, stain (such as iodine) • Place on slide • Add a drop of stain • Carefully lower a coverslip onto the slide. (Use a piece of filter paper to soak up any liquid from around the edge of the coverslip.) • Put the slide on the microscope stage at its highest setting • Choose the lowest powered objective lens • Lower slide using focusing knob until the cells come into focus • (For more detail repeat with higher objective lens.)	1 mark for apparatus Maximum of 5 marks for valid method	6	AO1 4.1.1.2 4.1.1.5