Swanmore Science
Separates Biology Revision List

The chapter headings given below refer to our recommended revision guides. These can be purchased through the Finance Office. More information can be found on our website: https://swanmore-school.co.uk/equipment/

Topic	Topic	Spec point	Topic Area	Know it?
PAPER 1				
4.1 Cell Biology	Cell Structure	1.1	Eukaryotic and prokaryotic cells	
		1.2	Animal and plant cells	
		1.3	Cell specialisation	
		1.4	Cell differentiation	
		1.5	Microscopy	
		1.6	*Culturing microorganisms*	
	Cell division	2.1	Chromosomes	
		2.2	Mitosis and the cell cycle	
		2.3	Stem cells	
	Transport in cells	3.1	Diffusion	
		3.2	Osmosis	
		3.3	Active transport	
4.2 Organisation		2	Principles of organisation	
	Animal tissues, organs and organ systems	2.1	The human digestive system	
		2.2	The heart and blood vessels	
		2.3	Blood	
		2.4	Coronary heart disease: a non-communicable disease	
		2.5	Health issues	
		2.6	The effect of lifestyle on some non-communicable diseases	
		2.7	Cancer	
	Plant tissues, organs and systems	3.1	Plant tissues	
		3.2	Plant organ system	
4.3 Infection and response	Communicable diseases	1.1	Communicable diseases	
		1.2	Viral diseases	
		1.3	Bacterial diseases	
		1.4	Fungal diseases	
		1.5	Protist diseases	

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		1.6	Human defence systems	
		1.7	Vaccination	
		1.8	Antibiotics and painkillers	
		1.9	Discovery and development of drugs	
	Monoclonal antibodies	*2.1*	*Producing monoclonal antibodies*	
		2.2	*Uses of monoclonal antibodies*	
	Plant disease	*3.1*	*Detection and identification of plant diseases*	
		3.2	*Plant defence systems*	
4.4 Bioenergetics	Photosynthesis	1.1	Photosynthesis	
		1.2	Rate of photosynthesis	
		1.3	Uses of glucose from photosynthesis	
	Respiration	2.1	Aerobic and anaerobic respiration	
		2.2	Response to exercise	
		2.3	Metabolism	
	REQUIRED PRACTICALS			
RP1			Use a light microscope to observe, draw and label a selection of plant and animal cells.	
RP2			*Investigate the effect of antiseptics or antibiotics on bacterial growth using agar plates and measuring zones of inhibition.*	
RP3			Investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.	
RP4			Use qualitative reagents to test for a range of carbohydrates, lipids and proteins.	
RP5			Investigate the effect of pH on the rate of reaction of amylase enzyme.	
RP6			Investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.	