

## Trilogy (Combined) HIGHER BIOLOGY Checklist – Paper 1

**Green** – topics assessed

**Black** – may appear as low mark question or via 'linked questions'

**Red** – topics NOT assessed

<b>Topic 1 - Cell Biology</b>				
4.1.1 - Cell Structure	Eukaryotes and Prokaryotes			
	Animal and Plant Cells			
	<b>Required practical activity 1: use a light microscope</b>			
	Cell specialisation			
	Cell differentiation			
	Microscopy			
4.1.2 - Cell Division	Chromosomes			
	Mitosis and the cell cycle			
	Stem cells			
4.1.3 Transport in cells	Diffusion			
	Osmosis			
	<b>Required practical activity 2: investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue</b>			
	Active transport			
<b>Topic 2 - Organisation</b>				
4.2.1 Principles of organisation	Principles of organisation			
4.2.2 Animal tissues, organs and organ system	The human digestive system			
	<b>Required practical activity 3: use qualitative reagents to test for a range of carbohydrates, lipids and proteins</b>			
	<b>Required practical activity 4: investigate the effect of pH on the rate of reaction of amylase enzyme</b>			
	The heart and blood vessels			
	Blood			
	Coronary heart disease: a non-communicable disease			
	Health issues			
	The effect of lifestyle on some non-communicable diseases			
Cancer				

4.2.3 Plant tissues, organs and systems	Plant tissues			
	Plant organ system			
<b>Topic 3 - Infection and response</b>				
4.3.1 Communicable diseases	Communicable (infectious) diseases			
	Viral diseases			
	Bacterial diseases			
	Fungal diseases			
	Protist diseases			
	Human defence systems			
	Vaccination			
	Antibiotics and painkillers			
	Discovery and development of drugs			
<b>Topic 4 - Bioenergetics</b>				
4.4.1 Photosynthesis	Photosynthetic reaction			
	Rate of photosynthesis			
	<b>Required practical activity 5: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed</b>			
	Uses of glucose from photosynthesis			
4.4.2 Respiration	Aerobic and anaerobic respiration			
	Response to exercise			
	Metabolism			

## Trilogy (Combined) HIGHER BIOLOGY Checklist – Paper 2

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**Red** – topics NOT assessed

<b>Topic 5 - Homeostasis and response</b>				
4.5.1 Homeostasis	Homeostasis			
4.5.2 The human nervous system	Structure and function			
	Required practical activity 6: plan and carry out an investigation into the effect of a factor on human reaction time			
4.5.3 Hormonal coordination in humans	Human endocrine system			
	Control of blood glucose concentration			
	Hormones in human reproduction			
	Contraception			
	The use of hormones to treat infertility (HT only)			
	Feedback systems (HT only)			
<b>Topic 6 - Inheritance, variation and evolution</b>				
4.6.1 Reproduction	Sexual and asexual reproduction			
	Meiosis			
	DNA and the genome			
	Genetic inheritance			
	Inherited disorders			
	Sex determination			
4.6.2 Variation and evolution	Variation			
	Evolution			
	Selective breeding			
	Genetic engineering			
4.6.3 The development of understanding of genetics and evolution	Evidence for evolution			
	Fossils			
	Extinction			
	Resistant bacteria			
4.6.4 Classification of living organisms	Classification			

4.7 Ecology				
4.7.1 Adaptations, interdependence and competition	Communities			
	Abiotic factors			
	Biotic factors			
	<b>Adaptations</b>			
4.7.2 Organisation of an ecosystem	Levels of organisation (Food Chains and Food Web)			
	<b>Required practical activity 7: measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species.</b>			
	How materials are cycled			
4.7.3 Biodiversity and the effect of human interaction on ecosystems	Biodiversity			
	Waste management			
	<b>Land use</b>			
	<b>Deforestation</b>			
	Global warming			
	Maintaining biodiversity			