AQA TRILOGY Biology (8464) from 2016 Topic T4.5 Homeostasis and response				
Topic	**Student Checklist**	**R**	**A**	**G**
4.5.1 Homeostasis	Describe what homeostasis is and why it is important stating specific examples from the human body			
	Describe the common features of all control systems			
4.5.2 The human nervous system	State the function of the nervous system and name its important components			
	Describe how information passes through the nervous system			
	Describe what happens in a reflex action and why reflex actions are important			
	Explain how features of the nervous system are adapted to their function, including a reflex arc (inc all types of neurone and the synapse)			
	Required practical 7: plan and carry out an investigation into the effect of a factor on human reaction time			
4.5.3 Hormo	Describe the endocrine system, including the location of the pituitary, pancreas, thyroid, adrenal gland, ovary and testis and the role of hormones			
	State that blood glucose concentration is monitored and controlled by the pancreas			
	Describe the body's response when blood glucose concentration is too high			
	Explain what type 1 and type 2 diabetes are and how they are treated			
	Describe what happens at puberty in males and females, inc knowledge of reproductive hormones			
	Describe the roles of the hormones involved in the menstrual cycle (FSH, LH and oestrogen)			
	Describe how fertility can be controlled by hormonal and non-hormonal methods of contraception (giving specific examples from the spec)			

AQA TRILOGY Biology (8464) from 2016 Topic T4.6 Inheritance, variation and evolution			
Topic	**Student Checklist**	**R**	**A**
4.6.1 Reproduction	Describe features of sexual and asexual reproduction		
	Describe what happens during meiosis and compare to mitosis		
	Describe what happens at fertilisation		
	Describe the structure of DNA and its role in storing genetic information inside the cell		
	Explain the term 'genome' and the importance of the human genome (specific examples from spec only)		
	Describe how characteristics are controlled by one or more genes, including examples		
	Explain important genetic terms: gamete, chromosome, gene, allele, genotype, phenotype, dominant, recessive, homozygous and heterozygous		
	Explain and use Punnet square diagrams, genetic crosses and family trees		
	Describe cystic fibrosis and polydactyly as examples of inherited disorders		
	Evaluate social, economic and ethical issues concerning embryo screening when given appropriate information		
	Describe how the chromosomes are arranged in human body cells, including the function of the sex chromosomes		
	Explain how sex is determined and carry out a genetic cross to show sex inheritance		
4.6.2 Variation and evolution	Describe what variation is and how it can be caused within a population		
	Describe mutations and explain their influence on phenotype and changes in a species		
	Explain the theory of evolution by natural selection		
	Describe how new species can be formed		
	Describe what selective breeding is		
	Explain the process of selective breeding, including examples of desired characteristics and risks associated with selective breeding		
	Describe what genetic engineering is, including examples, and how it is carried out		
	Explain some benefits, risks and concerns related to genetic engineering		
4.6.3 The development of understanding of	Describe some sources of evidence for evolution		
	Describe what fossils are, how they are formed and what we can learn from them		
	Explain why there are few traces of the early life forms, and the consequences of this in terms of our understanding of how life began		
	Describe some of the causes of extinction		
	Describe how antibiotic-resistant strains of bacteria can arise and spread (inc MRSA)		
	Describe how the emergence of antibiotic-resistant bacteria can be reduced and controlled, to include the limitations of antibiotic development		
4.6.4 Classification	Describe how organisms are named and classified in the Linnaean system		
	Describe and interpret evolutionary trees		
	Explain how scientific advances have led to the proposal of new models of classification, inc three-domain system		

AQA TRILOGY Biology (8464) from 2016 Topic T4.7 Ecology				
Topic	**Student Checklist**	**R**	**A**	**G**
4.7.1 Adaptations, interdependence and competition	Recall what an ecosystem is			
	Describe which resources animals and plants compete for, and why they do this			
	Explain the terms 'interdependence' and 'stable community'			
	Name some abiotic and biotic factors that affect communities			
	Explain how a change in an abiotic or biotic factor might affect a community			
	Describe structural, behavioural and functional adaptations of organisms			
	Describe what an extremophile is			
4.7.2 Organisation of an ecosystem	Represent the feeding relationships within a community using a food chain and describe these relationships			
	Explain how and why ecologists use quadrats and transects			
	Describe and interpret predator-prey cycles			
	Required practical 7: measure the population size of a common species in a habitat. Use sampling to investigate the effect of one factor on distribution			
	Describe the processes involved in the carbon cycle			
	Describe the processes involved in the water cycle			
4.7.3 Biodiversity and the effect of human interaction on ecosystems	Describe what biodiversity is, why it is important, and how human activities affect it			
	Describe the impact of human population growth and increased living standards on resource use and waste production			
	Explain how pollution can occur, and the impacts of pollution			
	Describe how humans reduce the amount of land available for other animals and plants			
	Explain the consequences of peat bog destruction			
	Describe what deforestation is and why it has occurred in tropical areas			
	Explain the consequences of deforestation			
	Describe how the composition of the atmosphere is changing, and the impact of this on global warming			
	Describe some biological consequences of global warming			
	Describe both positive and negative human interactions in an ecosystem and explain their impact on biodiversity			
	Describe programmes that aim to reduce the negative effects of humans on ecosystems and biodiversity			