Biology 2	Foundation		
Red	Amber	Green	
B10. The Human Nervous System	Describe what homeostasis is and why it is important stating specific examples from the human body		
	Describe the common features of all control systems		
	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: plan and carry out an investigation into the effect of a factor on human reaction time		
B11. Hormonal Control	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)		

Biology 2	Foundation		
Red	Amber	Green	
B13. 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		
	Describe how characteristics are controlled by one or more genes, including examples		
	Explain and use Punnet square diagrams, genetic crosses and family trees		
	Explain important genetic terms: gamete, chromosome, gene, allele, genotype, phenotype, dominant, recessive, homozygous and heterozygous		
	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		
B14. Variation & 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 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		

Biology 2	Foundation & Higher		
Red	Amber	Green	
B15. Genetics & Evolution	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		
	Describe how organisms are named and classified in the Linnaean system		
	Explain how scientific advances have led to the proposal of new models of classification, inc three-domain system		
	Describe and interpret evolutionary trees		
B16. Adaptations, Interdependence &	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		
	Explain how and why ecologists use quadrats and transects		
	Required practical: measure the population size of a common species in a habitat. Use sampling to investigate the effect of one factor on distribution		

Biology 2	Foundation & Higher		
Red	Amber	Green	
B17. Organising an Ecosystem	Represent the feeding relationships within a community using a food chain and describe these relationships		
	Describe and interpret predator-prey cycles		
	Describe the processes involved in the carbon cycle		
	Describe the processes involved in the water cycle		
	Describe the processes involved in the decay cycle		
B18. Biodiversity & 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 how human activities pollute water.		
	Describe programmes that aim to reduce the negative effects of humans on ecosystems and biodiversity		
	Describe how air pollution causes acid rain, global dimming and smog.		