Overview for Trilogy Biology 2016-19

Biology Y9	Biology Y10	Biology Y11
Cell Biology (4.1) **4.1.1**. 1/2/3/4Cells structures – eukaryotes and prokaryotes, animal and plants, specialised and differentiation (RP1) 4.1.1.5 Microscopes 4.1.1.6 Culturing Microbes (RP)	**Cell Biology (4.1)** 4.1.2.3 Cell differentiation, meristems and stem cells 4.1.3.1 diffusion, SA/Volume and exchange surfaces	**Cell Biology (4.1)** 4.1.2.2 Mitosis and cell cycle 4.1.3.2Osmosis (RP2) 4.1.3.3 Active transport
Organisation (4.2)	**Organisation (4.2)**	**Organisation (4.2)**
4.2.1 Cells tissues organs 4.2.2.2 The heart and blood vessels 4.2.2.5 Health issues – communicable and non-communicable 4.2.2.4. CHD as example of non-communicable disease. 4.2.2.5 Health Issues 4.2.2.6 Effect of lifestyle and risk factors 4.2.2.7 Cancer (basic cell division needed)	4.2.2.1 Digestive system (enzymes)(RP3&4) 4.2.2.3 Blood 4.2.2.4 CHD – treatments 4.2.3.1 Plant tissues 4.2.3.2 Translocation (Phloem) 4.2.3.2 Transpiration (Xylem)	
Infection and Response (4.3)	**Infection and Response (4.3)**	**Infection and Response (4.3)**
4.3.1.1. Communicable diseases 4.3.1.2. Viral - Measles, HIV, TMV 4.3.1.3.Bacterial – Salmonella, Gonorrhoea 4.3.1.4 Fungal – Rose Black Spot 4.3.1.5 Protist – Malaria 4.3.1.6. Human Defence system 4.3.3 Plant Disease	4.3.1.7 Vaccination 4.3.1.8 Antibiotics and painkillers 4.3.1.9 Discovery and development of drugs **4.3.2 Monoclonal antibodies**	
Bioenergetics (4.4)	**Bioenergetics (4.4)** 4.4.2.1 Aerobic and anaerobic respiration 4.4.2.2 Response to exercise 4.4.2.3 Metabolism (before enzymes?) 4.4.1.1 Photosynthesis reaction 4.4.1.2 Rate of photosynthesis **(limiting factors= HT)** (RP5) 4.4.1.3 use of Glucose	**Bioenergetics (4.4)**
Homeostasis and response (4.5) 4.5.2 The nervous system (RP6) 4.5.3.1 Human endocrine system **4.5.4 Plant Hormones** (RP)	**Homeostasis and response (4.5)** 4.5.1Homeostasis 4.5.2.4 Body Temperature 4.5.3.2 Control of blood glucose 4.5.3.3 Hormones in human reproduction 4.5.3.4 Contraception **4.5.3.5 Use of hormones to treat infertility** **4.5.3.6 Negative feedback**	**Homeostasis and response (4.5)** 4.5.2.2 The brain 4.5.2.3 The eye 4.5.3.3 Maintenance of water and nitrogen balance
Inheritance, variation and evolution (4.6) 4.6.1.1 Sexual vs asexual 4.6.1.3 DNA and the genome 4.6.1.3 Advantages and disadvantages of sexual and asexual repro 4.6.2.1 Variation 4.6.2.3 Selective breeding 4.6.2.2 Evolution – natural selection/speciation 4.6.3.1 Theory of evolution 4.6.3.1 Evidence for evolution 4.6.3.2 Fossils 4.6.3.3 Extinction 4.6.3.7 Resistant bacteria 4.6.3.2 Speciation	**Inheritance, variation and evolution (4.6)**	**Inheritance, variation and evolution (4.6)** 4.6.4 Classification 4.6.1.2 Meiosis 4.6.3.3 Understanding of genetics 4.6.1.4 Genetic inheritance 4.6.1.5 Inherited disorders 4.6.1.6 Sex determination 4.6.1.5 DNA structure 4.6.2.4 Genetic engineering 4.6.2.5 Cloning
Ecology 4.7 4.7.2.1 Levels of organisation (RP7) 4.7.2.2 Carbon cycle 4.7.2.2 Water cycle 4.7.2.3 Decomposition (RP) 4.7.4 Trophic levels	**Ecology 4.7** 4.7.1.1 Communities 4.7.1.2 Abiotic factors 4.7.1.3 Biotic factors 4.7.1.4 Adaptations **4.7.2.4 Impact of environmental change** 4.7.5 Food production	**Ecology 4.7** 4.7.3.1 Biodiversity 4.7.3.2 Waste management 4.7.3.3 Land use 4.7.3.4 Deforestation 4.7.3.5 Global warming 4.7.3.6 Maintaining Biodiversity

Triple only

Triple HT only

(RP) required practical for triple only

(RP) required practical for all

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