

Summer 2022 Triple Biology Foundation

Paper 1

			Revision pages
Topic 1 Cell Biology	Major Focus 4.1.1 Cell structure	<ul style="list-style-type: none"> The differences and similarities of Eukaryote cells (plant & animals) and Prokaryote cells (bacteria) Organelle function Plant and animal cell differences and similarities Sperm cell, nerve cell and muscle cell Root hair cell, xylem and phloem cells How they are adapted to function Microscopy Difference between resolution and magnification Compare light microscope to electron microscope 	Page 16 -17 Bottom of page 22 & page 23 Page 18-19
	Major Focus 4.1.3 Transport in cells	<ul style="list-style-type: none"> Diffusion Osmosis Active Transport 	Page 34 Page 35 Page 37
	Required Practical	<ul style="list-style-type: none"> RP activity 1: how a light microscope is used to observe plant cells. RP activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue 	Page 19-20 Page 36
	Minor Focus 4.1.2 Cell Division	<ul style="list-style-type: none"> Mitosis Binary Fission Stem Cells 	Page 26-27 Page 28 Page 24-25
Topic 2 Organisation	Major Focus 4.2.2 Animal tissues, organs & organ systems	<ul style="list-style-type: none"> Digestive System and enzymes Lungs Heart Blood vessels CHD Effect of lifestyle on non-communicable disease 	Page 46- 48 50-51 Page 56- 57 Page 58 Page 59 Page 63 – 65 Page 67 -70
	Major Focus 4.2.3 Plant issues, organs and systems	<ul style="list-style-type: none"> Plant tissue Structure of the leaf Plant organ system Transpiration + stomata & guard cells translocation 	Page 73 Page 75-77 Page 74
	Major Focus Required Practical	<ul style="list-style-type: none"> Required Practical Activity 4 – test for carbohydrates (starch & glucose) lipids and protein 	Page 52-53
Topic 3 Communicable Disease	Major Focus 4.3.1 Communicable diseases	<ul style="list-style-type: none"> How diseases are caught, spread and how they make us ill Viral disease Bacterial disease Fungal diseases 	Page 81 -82 Page 83 Page 84 Page 83
	Major focus 4.3.1.6 -.9	<ul style="list-style-type: none"> Human defence systems White blood cell defence : phagocytosis, antibodies and antitoxin Vaccination Antibiotics and pain killers (must learn about antibiotic resistance too) Drug discovery and development 	Page 85 Page 87 Page 88 -89 Page 90-91 & page 189 Page 92
	Minor Focus 4.3.3 Plant Disease	<ul style="list-style-type: none"> Detection and identification Plant defence 	Page 98

Topic 4 Bioenergetics	Major Focus 4.4.1 Photosynthesis	<ul style="list-style-type: none"> • Photosynthesis word and symbol equation (endothermic) • Rate of Photosynthesis 	Page 101 Page 102-103 Page 106 - 107
	Required Practical	<ul style="list-style-type: none"> • Required practical activity 6 Investigate the effect of light intensity on the rate of photosynthesis 	Page 105-106

Paper 2

Topic 5 Homeostasis and Response	Major Focus 4.5.2 Nervous System	<ul style="list-style-type: none"> • Structure and Function • Control Of Body Temperature 	Page 117-119 Page 126 -127
	Major Focus 4.5.3 Hormonal control in Humans	<ul style="list-style-type: none"> • Endocrine System • Control Of Blood Glucose Levels & diabetes • Hormones in Human Reproduction + menstrual Cycle • Contraception 	Page 130 Page 132-133 Page 139 – 140 Page 141-142
	Major Focus 4.5.4 Plant Hormones	<ul style="list-style-type: none"> • Control and co-ordination • Use of plant hormones 	Page 146 Page 148
	Minor Focus 4.5.1 Homeostasis	<ul style="list-style-type: none"> • Explain what it is and why it is important 	Page 116
	Required Practical	<ul style="list-style-type: none"> • Required Practical 7 – investigation of human reaction times • Required Practical 8 – investigate the effect of light on newly germinated seedlings 	Page 120 Page 147
Topic 6 Inheritance, Variation and Evolution	Major Focus 4.6.1 Reproduction	<ul style="list-style-type: none"> • Sexual and Asexual Reproduction • Meiosis (also compare to mitosis) • DNA and the genome (but NOT DNA structure) • Genetic Inheritance – crosses, Punnett squares and key vocabulary and terms • Inherited disorders – Polydactyl and cystic fibrosis 	Page 157 Page 158 Page 151 – 152 Page 164-167 Page 168-9
	Major Focus 4.6.3 Genetics	<ul style="list-style-type: none"> • Evidence for Evolution (include antibiotic resistance) • Fossils • Extinction 	Page 189 Page 186
	Minor Focus 4.6.4 Classification	<ul style="list-style-type: none"> • Classification 	Page 190 -191
Topic 7 Ecology	Minor Focus 4.7 Ecology	<ul style="list-style-type: none"> • Communities • Abiotic Factors • Biotic Factors • Food chains, food webs • Waste management 	Page 194 Page 195 Page 196 Page 198 Page 213
	Major Focus Required Practical	<ul style="list-style-type: none"> • Required Practical Activity 9 – measure the population size of a common species in a habitat 	Page 200-201

