

Year	Week	Lesson title	Lesson objectives	Practical	AQA specification reference
Year 10	½	Learning about the circulatory system	<ul style="list-style-type: none"> <li>Identify the parts of the circulatory system.</li> <li>Describe the functions of the parts of the circulatory system.</li> <li>Explain how the structure of each part of the circulatory system relates to its function.</li> </ul>		4.2.2.2; 4.2.2.3
Year 10	½	Exploring the heart	<ul style="list-style-type: none"> <li>Describe the structure and functions of the heart.</li> <li>Identify the functions and adaptations of the parts of the heart.</li> <li>Explain the movement of blood around the heart.</li> </ul>	Heart dissection	4.2.2.2
Year 10	¾	Studying blood	<ul style="list-style-type: none"> <li>Identify the parts of the blood and their functions.</li> <li>Explain the adaptations of red blood cells.</li> <li>Explain how red blood cells and haemoglobin transport oxygen efficiently.</li> </ul>		4.2.2.3
Year 10	¾	Investigating gas exchange	<ul style="list-style-type: none"> <li>Identify the parts of the human gas exchange system and know their functions.</li> <li>Explain how gas exchange occurs in humans.</li> <li>Explain the adaptations of the gas exchange surfaces.</li> </ul>	Lung dissection demo Bell jar	4.1.3.1; 4.2.2.2
Year 10	¾	Learning about coronary heart disease	<ul style="list-style-type: none"> <li>Identify the causes and symptoms of coronary heart disease and heart failure.</li> <li>Describe possible treatments of coronary heart disease and heart failure.</li> <li>Evaluate the possible treatments of coronary heart disease and heart failure.</li> </ul>		4.2.2.4
Year 10	5/6	Learning about health	<ul style="list-style-type: none"> <li>Recall the difference between health and disease.</li> <li>Explain how some diseases interact.</li> <li>Evaluate data about lifestyle and health.</li> </ul>		4.2.2.6; 4.2.2.7
Year 10	5/6	Risk Factors for non-communicable disease: Alcohol	<ul style="list-style-type: none"> <li>Recall the causes of some non-communicable diseases.</li> <li>Describe the impact of lifestyle on non-communicable diseases.</li> <li>Explain the impact of lifestyle on non-communicable diseases.</li> </ul>		4.2.2.6
Year 10	7/8	Risk factors: smoking	<ul style="list-style-type: none"> <li>Identify risk factors for cancer.</li> <li>Explain the differences between types of tumours.</li> <li>Explain the impact of non-communicable diseases</li> </ul>	Smoking demo.	4.2.2.6; 4.2.2.7
Year 10	7/8	Risk factors: obesity	<ul style="list-style-type: none"> <li>Describe some health problems caused by a poor diet and lack of exercise.</li> <li>Describe causal mechanisms for the link between exercise and health</li> <li>Suggest reasons for the correlation between exercise and health, and decide which are causal.</li> </ul>		
Year 10	7/8	Studying pathogens	<ul style="list-style-type: none"> <li>Recall the definition of a pathogen.</li> <li>Explain how communicable diseases can be controlled.</li> <li>Distinguish between epidemics and pandemics.</li> </ul>		4.3.1.1
Year 10	7/8	Learning about viral diseases	<ul style="list-style-type: none"> <li>Describe the symptoms of some viral diseases.</li> <li>Describe the transmission and control of some viral diseases.</li> <li>Explain how some viral diseases are spread.</li> </ul>		4.3.1.2

Year 10	9/10	Studying bacterial diseases	<ul style="list-style-type: none"> <li>Describe the symptoms of some bacterial diseases.</li> <li>Explain how some bacterial diseases can be controlled.</li> <li>Compare and contrast bacterial and viral diseases.</li> </ul>		4.3.1.3
Year 10	9/10	Looking at fungal diseases	<ul style="list-style-type: none"> <li>Recall the name and symptoms of a fungal disease.</li> <li>Describe the transmission and treatment of rose black spot.</li> <li>Explain how rose black spot affects the growth of the plant.</li> </ul>		4.3.1.4
Year 10	9/10	Learning about malaria	<ul style="list-style-type: none"> <li>Recall that malaria is a protist disease.</li> <li>Describe the lifecycle of the malarial vector.</li> <li>Evaluate control methods for the spread of malaria.</li> </ul>		4.3.1.5
Year 10	9/10	Protecting the body	<ul style="list-style-type: none"> <li>Describe how the body protects itself from pathogens.</li> <li>Explain how the body protects itself from pathogens.</li> <li>Explain how communicable diseases can be spread.</li> </ul>		4.3.1.6
Year 10	11/12	Exploring white blood cells	<ul style="list-style-type: none"> <li>Describe phagocytosis.</li> <li>Explain how antibody production can lead to immunity.</li> <li>Explain the specificity of immune system responses</li> </ul>		4.3.1.6
Year 10	11/12	Building immunity	<ul style="list-style-type: none"> <li>Recall how vaccinations prevent infection.</li> <li>Explain how mass vaccination programmes reduce the spread of a disease.</li> <li>Evaluate the global use of vaccination.</li> </ul>		4.3.1.7
Year 10	13/14	Using antibiotics and painkillers	<ul style="list-style-type: none"> <li>Describe the uses of antibiotics and painkillers.</li> <li>Explain how antibiotics and painkillers can be used to treat diseases.</li> <li>Explain the limitations of antibiotics.</li> </ul>		4.3.1.8
Year 10	13/14	Required Prac 2: Analysing bacterial growth	<ul style="list-style-type: none"> <li>state what is meant by aseptic technique</li> <li>write a detailed plan to investigate the effectiveness of different antiseptics or antibiotics on bacterial growth</li> <li>identify hazards in this practical procedure and describe how they can be controlled</li> </ul>	Required Prac 2: Analysing bacterial growth	1.1.6
Year 10	13/14	Making new drugs	<ul style="list-style-type: none"> <li>Recall some traditional drugs and their origins.</li> <li>Describe how new drugs are developed.</li> <li>Explain why 'double-blind' trials are conducted.</li> </ul>	Mock drug trial with 2 types of chocolate	4.3.1.9
Year 10	15/16	Investigating monoclonal antibodies (high demand only)	<ul style="list-style-type: none"> <li>Describe uses of monoclonal antibodies.</li> <li>Explain how monoclonal antibodies are produced.</li> <li>Evaluate the use of monoclonal antibodies.</li> </ul>		4.3.2.1; 4.3.2.2
Year 10	15/16	Looking at plant diseases	<ul style="list-style-type: none"> <li>Recall the causes of plant diseases.</li> <li>Describe the symptoms and identification methods of some plant diseases.</li> <li>Explain the use of monoclonal antibodies in identifying plant pathogens.</li> </ul>		4.3.3.1
Year 10	15/16	Learning about plant defences	<ul style="list-style-type: none"> <li>Recall some physical plant defence responses.</li> <li>Explain how mechanical plant defence systems help them survive.</li> <li>Explain how chemical plant defence systems help them survive.</li> </ul>		4.3.3.2
Year 10	15/16	Homeostasis	<ul style="list-style-type: none"> <li>Explain the importance of homeostasis in regulating internal conditions in the body.</li> <li>Recall that these control systems involve nervous or chemical responses.</li> </ul>		4.5.1

			<ul style="list-style-type: none"> <li>Describe how control systems involve receptors, coordination centres and effectors.</li> </ul>		
Year 10	17/18	The nervous system	<ul style="list-style-type: none"> <li>Describe the structure and function of the nervous system.</li> <li>Explain how the nervous system is adapted to its functions.</li> <li>Describe the structure of sensory, motor and relay neurones.</li> </ul>		4.5.2.1
Year 10	17/18	Reflex actions	<ul style="list-style-type: none"> <li>Explain the importance of reflex actions.</li> <li>Describe the path of a reflex arc.</li> <li>Explain how the structures in the reflex arc relate to their function.</li> </ul>		4.5.2.1
Year 10	19/20	The brain	<ul style="list-style-type: none"> <li>Recall that the brain controls complex behaviour using billions of interconnected neurones.</li> <li>Identify the three main regions of the brain and describe their functions.</li> <li>Describe how the regions of the brain are mapped.</li> </ul>	Brain model	4.5.2.2
Year 10	19/20	Required practical: Investigating reaction time	<ul style="list-style-type: none"> <li>Select appropriate apparatus and techniques for the measurement of biological processes.</li> <li>Carry out physiological experiments safely.</li> <li>Use appropriate techniques in problem-solving contexts.</li> </ul>	Required practical: Investigating reaction time	4.5.2.1
Year 10	21/22	The eye	<ul style="list-style-type: none"> <li>Relate the structures of the eye to their functions.</li> <li>Explain how the eye is adapted to seeing in colour and in dim light.</li> <li>Understand how the eye is able to focus on near or distant objects.</li> </ul>	Eye model	4.5.2.3
Year 10	21/22	Eye defects	<ul style="list-style-type: none"> <li>Describe and understand why short-sightedness (myopia) occurs.</li> <li>Describe and understand why long-sightedness (hyperopia) occurs.</li> <li>Demonstrate how techniques are used to correct eye defects.</li> </ul>		4.5.2.3
Year 10	21/22	Controlling body temperature	<ul style="list-style-type: none"> <li>Describe the mechanisms by which body temperature is controlled when too hot or cold.</li> <li>Explain how body temperature can be controlled in a specific context.</li> </ul>		4.5.2.4
Year 10	23/24	The endocrine system	<ul style="list-style-type: none"> <li>Recall that the endocrine system is made up of glands that secrete hormones into the blood.</li> <li>Know the location of the major endocrine glands.</li> <li>Understand why the pituitary gland is the ‘master gland’.</li> <li>Describe the effects of adrenaline.</li> </ul>		4.5.3.1
Year 10	25/26	Controlling blood glucose	<ul style="list-style-type: none"> <li>Recall that blood glucose is monitored and controlled by the pancreas.</li> <li>Understand how insulin controls blood glucose levels.</li> <li>Understand how insulin works with another hormone – glucagon – to control blood sugar levels.</li> </ul>		4.5.3.2; 4.5.3.7
Year 10	25/26	Diabetes	<ul style="list-style-type: none"> <li>Understand the causes of Type 1 and Type 2 diabetes.</li> <li>Compare Type 1 and Type 2 diabetes.</li> <li>Evaluate information on the relationship between obesity and diabetes, and make appropriate recommendations.</li> </ul>	Testing “urine samples” for glucose (Benedicts)	4.5.3.2; 4.5.3.7
Year 10	25/26	Water balance	<ul style="list-style-type: none"> <li>Recall the ways in which the body loses water.</li> <li>Explain why cells do not function efficiently if they lose or gain too much water.</li> <li>Explain how excess protein is converted to urea for excretion.</li> </ul>		4.5.3.3; 4.5.3.7

Year 10	25/26	The kidneys	<ul style="list-style-type: none"> <li>Recall that excess water, ions and urea are removed from the body by the kidneys in urine.</li> <li>Describe how the kidneys produce urine.</li> <li>Explain how the hormone ADH regulates the amount of water in the urine, and therefore, in the body.</li> </ul>	Kidney dissection	4.5.3.3
Year 10	27/28	Kidney failure	<ul style="list-style-type: none"> <li>Recall that people who suffer from kidney failure can be treated by dialysis or kidney transplant.</li> <li>Understand the principles of dialysis.</li> <li>Evaluate the advantages and disadvantages of treating organ failure using a mechanical device or transplant.</li> </ul>		4.5.3.3
	27/28	Dialysis or transplant?	<ul style="list-style-type: none"> <li>Describe different forms of dialysis.</li> <li>Use data to draw conclusions.</li> <li>Use data to evaluate the advantages and disadvantages of dialysis and kidney donation.</li> </ul>		4.5.3.3
Year 10	27/28	Negative feedback (Higher tier only)	<ul style="list-style-type: none"> <li>Explain the role of thyroxine in the body.</li> <li>Understand the principles of negative feedback, as applied to thyroxine.</li> </ul>		
Year 10	27/28	Human reproduction & contraception	<ul style="list-style-type: none"> <li>Describe the roles of hormones in sexual reproduction.</li> <li>Describe hormonal methods and non-hormonal methods of contraception.</li> <li>Describe the advantages and disadvantages of different contraceptive methods.</li> </ul>	Contraception tray Baby in a box	4.5.3.4
Year 10	29/30	The Menstrual Cycle	<ul style="list-style-type: none"> <li>Describe the roles of hormones in sexual reproduction.</li> <li>Explain how hormones interact in the menstrual cycle.</li> </ul>		
Year 10	29/30	IVF (Higher tier only)	<ul style="list-style-type: none"> <li>Explain the use of hormones in technologies to treat infertility.</li> <li>Describe the technique of in-vitro fertilisation.</li> <li>Evaluate the scientific, emotional, social and ethical issues of in-vitro fertilisation.</li> </ul>		4.5.3.6
Year 10	31/32	Auxins	<ul style="list-style-type: none"> <li>Recall that plants produce hormones to coordinate and control growth, and responses to light and gravity.</li> <li>Describe how unequal distributions of auxins cause unequal growth rates in plant shoots and roots.</li> <li>Explain that auxins act on 'stem cells' in plants called meristems.</li> <li>Describe some applications of auxins.</li> </ul>		4.5.4.1; 4.5.4.2
Year 10	31/32	Required practical: The effect of light and gravity on the growth of germinating seeds	<ul style="list-style-type: none"> <li>Describe how an experiment is planned for a specific purpose.</li> <li>Make and record observations and translate data from one form to another.</li> <li>Interpret observations and other data, identifying patterns and trends, make inferences and draw conclusions.</li> </ul>	Required practical: The effect of light and gravity on the growth of germinating seeds	4.5.4.1
Year 10	31/32	Uses of plant hormones (Higher tier only)	<ul style="list-style-type: none"> <li>Recall that gibberellins are important in seed germination, and ethene in cell division and ripening of fruit.</li> <li>Explain the application of the plant hormones ethane and gibberellins.</li> </ul>		4.5.4.2

Year 10	31/32	DNA and genes	<ul style="list-style-type: none"> <li>Describe the structure of DNA.</li> <li>Describe a gene as a small section of DNA that codes for a protein.</li> </ul>		4.6.1.4; 4.6.1.5
Year 10	33/34	The human genome	<ul style="list-style-type: none"> <li>Describe a gene as a small section of DNA that codes for a protein.</li> <li>Explain the importance of understanding the human genome.</li> </ul>		4.6.1.4; 4.6.1.5
Year 10	33/34	Tracing human migration	<ul style="list-style-type: none"> <li>Explain the importance of understanding the human genome.</li> <li>Discuss the use of the human genome in understanding human migration patterns.</li> </ul>		4.6.1.4; 4.6.1.5
Year 10	33/34	The structure of DNA	<ul style="list-style-type: none"> <li>Describe the structure of DNA as repeating nucleotide units.</li> <li>Identify the four bases in DNA.</li> <li>Explain that the bases A and T, and C and G, are complementary.</li> </ul>	DNA models	4.6.1.5
Year 10	33/34	Proteins	<ul style="list-style-type: none"> <li>Describe how proteins are synthesised according to the DNA template of a gene.</li> <li>Explain that the genetic code of a gene specifies the protein to be made.</li> </ul>		4.6.1.5
Year 10	35/36	Mutations	<ul style="list-style-type: none"> <li>Model changes to the base sequences of DNA to illustrate mutations.</li> <li>Describe the negative and, sometimes, positive effects of mutations.</li> <li>Describe how mutations can affect protein function.</li> </ul>		4.6.1.5
Year 10	35/36	Meiosis	<ul style="list-style-type: none"> <li>Explain how meiosis halves the number of chromosomes for gamete production.</li> <li>Explain how fertilisation restores the chromosome number.</li> <li>Understand that the four gametes produced by meiosis are genetically different.</li> </ul>		4.6.1.1; 4.6.1.2; 4.6.1.8
Year 10	35/36	Asexual and sexual reproduction	<ul style="list-style-type: none"> <li>Understand that asexual reproduction involves just one parent and produces genetically identical offspring.</li> <li>Understand that sexual reproduction leads to variety in the offspring.</li> </ul>		4.6.1.1; 4.6.1.3
Year 11	½	Genetics	<ul style="list-style-type: none"> <li>Understand and be able to use genetics terms, such as dominant, recessive, genotype, phenotype, homozygous and heterozygous.</li> <li>Know that some human conditions are caused by a recessive allele.</li> </ul>		4.6.1.6; 4.6.1.7
Year 11	2/3	Genetic crosses	<ul style="list-style-type: none"> <li>Use the terms dominant, recessive, genotype, phenotype, homozygous and heterozygous.</li> <li>Know that some human conditions, such as cystic fibrosis, are caused by a recessive allele.</li> <li>Complete or construct a Punnett square to predict the outcome of a genetic cross.</li> </ul>		4.6.1.6; 4.6.1.7
Year 11	2/3	Gene disorders	<ul style="list-style-type: none"> <li>Understand the use of a family tree to show the inheritance of a characteristic.</li> <li>Explain economic, social and ethical issues concerned with embryo screening.</li> </ul>		4.6.1.6; 4.6.1.7
Year 11	2/3	Gregor Mendel & genetic diagrams	<ul style="list-style-type: none"> <li>Plan experiments to explore phenomena and test hypotheses</li> <li>Draw conclusions from given observations</li> <li>Evaluate data in terms of reproducibility.</li> </ul>		

Year 11	2/3	Using Family Trees	<ul style="list-style-type: none"> <li>Understand the use of a family tree to show the inheritance of a characteristic.</li> <li>Explain economic, social and ethical issues concerned with embryo screening.</li> </ul>		4.6.1.5
Year 11	4/5	Genetic testing	<ul style="list-style-type: none"> <li>Outline the methods used to screen embryos.</li> <li>Explain how screening shows whether an embryo has a genetic disorder.</li> <li>Make an informed judgement about embryo screening by evaluating in detail the economic, social, and ethical issues.</li> </ul>		4.6.1.5
Year 11	4/5	Variation	<ul style="list-style-type: none"> <li>Recall that differences in the characteristics of individuals in a population is called variation.</li> <li>Understand the genetic and environmental differences leading to variation.</li> </ul>	Variation prac with height measurer, tape measures	4.6.2.1
Year 11	4/5	The theory of evolution	<ul style="list-style-type: none"> <li>Recall that all species of living things have evolved from simple life forms.</li> <li>Explain how evolution occurs through natural selection,</li> <li>Recognise how Darwin and Wallace proposed, independently, the theory of evolution</li> </ul>		4.6.2.2
Year 11	4/5	Natural selection	<ul style="list-style-type: none"> <li>Explain the evidence that led Darwin to propose the theory of evolution by natural selection.</li> <li>Describe the process of natural selection.</li> </ul>		4.6.3.1
Year 11	6/7	Fossil evidence	<ul style="list-style-type: none"> <li>Understand how, and the situations in which, fossils are formed.</li> <li>Understand how fossils are used as evidence for evolution of species from simpler life forms.</li> <li>Understand why the fossil record is incomplete.</li> </ul>	Fossil tray	4.3.6.4; 4.3.6.5
Year 11	8/9	Evidence for evolution	<ul style="list-style-type: none"> <li>Understand why the fossil record is incomplete.</li> <li>Use the fossil record to understand how much, or how little, organisms have changed as life developed on Earth.</li> </ul>		4.6.3.5
Year 11	8/9	Speciation	<ul style="list-style-type: none"> <li>Understand that when natural selection operates differently on populations, a new species is produced.</li> <li>Understand that during evolution, new species are formed when populations become so different that they can no longer interbreed.</li> </ul>		4.6.3.2
Year 11	8/9	Mendel	<ul style="list-style-type: none"> <li>Understand how scientific theories develop over time.</li> <li>Describe the work of Mendel, Darwin and Wallace.</li> <li>Explain how they contributed to the theory of evolution.</li> <li>Appreciate that many scientists have contributed to the gene theory.</li> </ul>		4.6.3.4
Year 11	8/9	Antimicrobial resistance	<ul style="list-style-type: none"> <li>Recall that bacteria develop that are resistant to antibiotics, which is evidence of evolution.</li> <li>Understand the mechanism by which antibiotic resistance develops.</li> <li>Understand the effects of the development of antibiotic resistance on the treatment of disease.</li> <li>Describe how to reduce the rate of development of antibiotic resistance.</li> </ul>		4.6.3.7
Year 11	10/11	Selective breeding	<ul style="list-style-type: none"> <li>Describe the process of selective breeding.</li> <li>Recall how selective breeding enables humans to choose desirable characteristics in animals and plants.</li> <li>Explain how selective breeding can lead to inbreeding.</li> </ul>		4.6.2.3

Year 11	10/11	Producing new plant varieties	<ul style="list-style-type: none"> <li>Describe the process of selective breeding.</li> <li>Recall how selective breeding enables humans to choose desirable characteristics in plants.</li> <li>Evaluate the benefits and risks of selective breeding in plants.</li> </ul>		4.6.2.3
Year 11	10/11	Genetic engineering	<ul style="list-style-type: none"> <li>Explain what is meant by the term genetic engineering.</li> <li>Give examples of how plant crops have been genetically engineered to improve products.</li> <li>Describe how fungus cells are engineered to produce human insulin</li> </ul>		4.6.2.4
Year 11	10/11	Genetically modified crops: the science	<ul style="list-style-type: none"> <li>Explain the benefits of genetic modification in a range of crops.</li> <li>Explain the concerns about genetic modification.</li> <li>Explain the ethical concerns about genetic engineering.</li> </ul>		4.6.2.4
Year 11	12/13	Is genetic modification safe?	<ul style="list-style-type: none"> <li>Explore the benefits of genetic modification in medicine.</li> <li>Explain the concerns that people have about genetic modification.</li> <li>Explain the possible safety issues of genetic engineering in agriculture and medicine.</li> <li>Explain the ethical issues of genetic engineering in agriculture and medicine.</li> </ul>		4.6.2.4
Year 11	12/13	Cloning	<ul style="list-style-type: none"> <li>Describe how cuttings and tissue culture are used to produce new plants.</li> <li>Describe the use of embryo transplants and adult cell cloning in animals.</li> </ul>	Taking cuttings/ tissue culture	4.6.2.5
Year 11	14/15	Classification	<ul style="list-style-type: none"> <li>Describe how living things have been classified into groups using a system devised by Linnaeus.</li> <li>Describe how new models of classification have developed.</li> </ul>		4.6.4
Year 11	14/15	Extinction	<ul style="list-style-type: none"> <li>List the causes of extinction.</li> <li>Explain how new predators, competitors and diseases can lead to extinctions.</li> </ul>		4.6.3.6
Year 11	14/15	Ecosystems	<ul style="list-style-type: none"> <li>Describe what an ecosystem is.</li> <li>Explain the importance of high biodiversity.</li> <li>Explain what is meant by a self-supporting ecosystem</li> </ul>		4.7.1.1; 4.7.3.1
Year 11	14/15	Biotic & abiotic factors	<ul style="list-style-type: none"> <li>Identify abiotic factors that affect ecosystems.</li> <li>Explain changes in the distribution of species in an ecosystem.</li> <li>Describe stable and unstable populations.</li> </ul>		4.7.1.2; 4.7.2.4
Year 11	16/17	Investigating predator-prey relationships	<ul style="list-style-type: none"> <li>Describe how changes in one population affect another.</li> <li>Explain interdependent relationships.</li> <li>Explain how predator-prey population cycles have cyclical changes.</li> </ul>		4.7.2.1
Year 11	16/17	Looking at trophic levels	<ul style="list-style-type: none"> <li>Explain trophic levels.</li> <li>Explain and construct pyramids of biomass.</li> <li>Explain the difficulties in constructing pyramids.</li> </ul>		4.7.2.1; 4.7.4.1; 4.7.4.2
Year 11	16/17	Pyramids of biomass	<ul style="list-style-type: none"> <li>Identify how biomass is lost.</li> <li>Calculate the efficiency of biomass transfers.</li> <li>Explain the impact of biomass loss on the numbers of organisms.</li> </ul>		4.7.4.3

Year 11	16/17	Competition	<ul style="list-style-type: none"> <li>Describe how competition impacts on populations.</li> <li>Explain why animals in the same habitat are in competition.</li> <li>Explain interspecific and intraspecific competition.</li> </ul>		4.7.1.1
Year 11	16/17	Required practical: Measure the population size of a common species in a habitat	<ul style="list-style-type: none"> <li>Describe a suitable method to investigate a population.</li> <li>Estimate the size of a population.</li> <li>Explain the effect of sample size.</li> </ul>	Required practical: Measure the population size of a common species in a habitat (quadrats)	4.7.2.1
Year 11	18/19	Adapting for survival in animals	<ul style="list-style-type: none"> <li>Recall why animals have adaptations.</li> <li>Explain some adaptations.</li> <li>Use surface-area-to-volume ratios to explain some adaptations.</li> </ul>		4.7.1.4
Year 11	20/21	Adapting for survival in plants	<ul style="list-style-type: none"> <li>Identify some adaptations of plants and bacteria.</li> <li>Explain the importance of plant adaptations.</li> <li>Explain a range of plant adaptations.</li> </ul>		4.7.1.4
Year 11	20/21	Cycling materials	<ul style="list-style-type: none"> <li>Recall that many materials are recycled in nature.</li> <li>Explain the stages in the water and decay cycles.</li> <li>Explain the importance of recycling materials.</li> </ul>		4.7.2.2; 4.7.4.1
Year 11	20/21	Cycling carbon	<ul style="list-style-type: none"> <li>Recall that plants take in carbon as carbon dioxide.</li> <li>Explain how carbon is recycled.</li> <li>Interpret a diagram of the carbon cycle.</li> </ul>		4.7.2.2
Year 11	20/21	Investigating decay	<ul style="list-style-type: none"> <li>Recall the factors needed for decay.</li> <li>Describe how different factors affect decay.</li> <li>Explain extracellular digestion.</li> </ul>		4.7.2.2
Year 11	22/23	Investigate the effect of temperature on the rate of decay of fresh milk by measuring pH change	<ul style="list-style-type: none"> <li>Describe how safety is managed, apparatus is used and accurate measurements are made.</li> <li>Make and record observations and make accurate measurements.</li> <li>Evaluate methods and suggest possible improvements and further investigations.</li> </ul>	Req prac: effect of temperature on the rate of decay of fresh milk	4.7.2.3
Year 11	22/23	Changing the environment	<ul style="list-style-type: none"> <li>Recall causes of environmental change.</li> <li>Describe the impact of environmental change.</li> <li>Explain the impact of an environmental change.</li> </ul>		4.7.2.4; 4.7.3.1; 4.7.3.2
Year 11	22/23	Deforestation & Peat bog destruction	<ul style="list-style-type: none"> <li>Identify why land use has changed.</li> <li>Identify the reasons for deforestation.</li> <li>Describe the impact of peat bog destruction and deforestation.</li> <li>Evaluate the destruction of peat bogs and forests.</li> </ul>		4.7.3.3
Year 11	24/25	Thinking about global warming	<ul style="list-style-type: none"> <li>Recall what global warming is.</li> <li>Describe the causes of global warming.</li> <li>Explain how global warming impacts on biodiversity.</li> </ul>		4.7.3.5
Year 11	24/25	Looking at waste management	<ul style="list-style-type: none"> <li>Describe how waste production is linked to human population growth.</li> <li>Describe the impact of waste on ecosystems.</li> <li>Explain how waste impacts on biodiversity.</li> </ul>		4.7.3.2
Year 11	26/27	Investigating pollution	<ul style="list-style-type: none"> <li>Identify pollution levels using indicator species.</li> <li>Explain how indicator species measure pollution.</li> <li>Compare different methods of measuring pollution.</li> </ul>		4.7.3.2

Year 11	26/27	Maintaining biodiversity	<ul style="list-style-type: none"> <li>● Describe some conservation measures.</li> <li>● Describe the impact of breeding programmes.</li> <li>● Explain how habitats are regenerated.</li> </ul>		4.7.3.6
Year 11	26/27	Learning about food security	<ul style="list-style-type: none"> <li>● Identify factors affecting food security.</li> <li>● Describe how different factors affect food security.</li> <li>● Interpret data to evaluate food security.</li> </ul>		4.7.5.1
Year 11	26/27	Maintaining food security	<ul style="list-style-type: none"> <li>● Describe some intensive farming methods.</li> <li>● Explain ethical issues related to intensive farming.</li> <li>● Evaluate modern farming techniques.</li> <li>● Describe methods to maintain sustainable fisheries.</li> </ul>		4.7.5.2
Year 11	28/29	Using biotechnology	<ul style="list-style-type: none"> <li>● Describe some uses of biotechnology.</li> <li>● Explain the advantages of some uses of biotechnology.</li> <li>● Evaluate some uses of biotechnology.</li> </ul>		4.7.5.4