Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		Chapter	1: Cell biology		
1.1	Looking at cells	 Describe the structure of eukaryotic cells. Recognise the order of magnitude of cells. Explain how the main sub- cellular structures are related to their functions. 	4.1.1.1; 4.1.1.2	Worksheets 1.1.1, 1.1.2 and 1.1.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow
1.2	The light microscope	 Observe plant and animal cells with a light microscope. Understand the limitations of light microscopy. 	4.1.1.5	Worksheet 1.2; Practical sheet 1.2; Technician's notes 1.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow
1.3	Looking at cells in more detail	 Identify the differences in the magnification and resolving power of light and electron microscopes. Describe simply how electron microscopes work in comparison to light microscopes. Explain how electron microscopy has increased our understanding of sub-cellular structures. 	4.1.1.5	Worksheet 1.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.4	Required practical: Using a light microscope to observe and record animal and plant cells	 Apply knowledge to select techniques, instruments, apparatus and materials to observe cells. Make and record observations and measurements. Present observations and other data using appropriate 	4.1.1.2	Worksheets 1.4.1 and 1.4.2; Practical sheets 1.4.1 and 1.4.2; Technician's notes 1.4	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
1.5	Primitive cells	 methods. Describe the differences between prokaryotic cells and eukaryotic cells. Explain how the main sub- cellular structures of prokaryotic and eukaryotic 	4.1.1.1; 4.1.1.2; 4.6.4	Worksheet 1.5; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.6	Cell division	 cells are related to their functions. Describe the process of mitosis in growth, and mitosis as part of the cell cycle. Describe how the process of mitosis produces cells that are 	4.1.2.1; 4.1.2.2	Worksheets 1.6.1 and 1.6.2; Technician's notes 1.6; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.7	Cell differentiation	 identical genetically to the parent cell. Explain the importance of cell differentiation. Describe how cells, tissues, organs and organ systems are organised to make up an organism. 	4.1.1.3; 4.1.1.4	Worksheet 1.7; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.8	Cancer	 Understand size and scale in relation to cells, tissues, organs and organ systems. Describe cancer as a condition resulting from changes in cells that lead to their uncontrolled growth, division and spread. Understand some of the risk factors that trigger cells to 	4.2.2.7	Worksheets 1.8.1, 1.8.2 and 1.8.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		Use data to analyse and evaluate the impact of cancer.			
1.9	Stem cells	 Describe the function of stem cells in embryonic and adult animals. Discuss potential benefits and risks associated with the use of stem cells in medicine. 	4.1.2.3	Worksheets 1.9.1 and 1.9.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.10	Stem cell banks	 Explore the use of stem cells in medicine. Identify the risks in using stem cells. Evaluate the benefits and disadvantages of using stem cells. 	4.1.2.3	Worksheet 1.10; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Video
1.11	Key concept: Cell development	 Give examples of where mitosis is necessary to produce identical daughter cells. Understand the need for reduction division, meiosis. Describe the use and potential of cloned cells in biological research. 	4.1.2	Worksheets 1.11.1 and 1.11.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow Video
1.12	Cells at work	 Recognise that all organisms respire. Explain respiration as the process of making energy. Describe aerobic respiration as an exothermic reaction. 	4.4.2.1	Worksheet 1.12; Practical sheet 1.12; Technician's notes 1.12; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
1.13	Living without oxygen	Describe the process of anaerobic respiration.	4.2.2.1	Worksheet 1.13; PowerPoint presentation	Quick starter Homework worksheet

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Explain when anaerobic processes occur. Compare the processes of aerobic and anaerobic respiration. 			Homework quiz Slideshow Video
1.14	Maths skills: Size and number	 Make estimates of the results of simple calculations, without using a calculator. Use ratio and proportion to calibrate a microscope. Recognise and use numbers in decimal and standard form. 		Worksheets 1.14.1 and 1.14.2	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessm	ents	End of chapter test Student Book	l		
		End of chapter test Collins Connect	: Photosynthesis	s	
2.1	Explaining photosynthesis	 Identify the raw materials and products of photosynthesis. Describe photosynthesis by an equation. Explain gas exchange in leaves. 	4.4.1.1	Worksheet 2.1; Practical sheet 2.1; Technician's notes 2.1	Quick starter Homework worksheet Homework quiz Slideshow
2.2	Looking at photosynthesis	 Explain the importance of photosynthesis. Explain how plants use the glucose they produce. 	4.2.3.2; 4.4.1.1	Worksheet 2.2; Technician's notes 2.2	Quick starter Homework worksheet Homework quiz
2.3	Investigating leaves	 Identify the internal structures of a leaf. Explain how the structure of a leaf is adapted for photosynthesis. 	4.2.3.1	Worksheets 2.3.1, 2.3.2 and Technician's notes 2.3	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Recall that chloroplasts absorb energy from light for photosynthesis. 			
2.4	Required practical: Investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed	 Use scientific ideas to evaluate a hypothesis. Use the correct sampling techniques to ensure that readings are representative. Present results in a graph. 	4.4.1.2	Worksheet 2.4; Practical sheets 2.4.1, 2.4.2 and 2.4.3; Technician's notes 2.4	Quick starter Homework worksheet Homework quiz Slideshow
2.5	Increasing photosynthesis	 Identify factors that affect the rate of photosynthesis. Interpret data about the rate of photosynthesis. Explain the interaction of factors in limiting the rate of photosynthesis. 	4.4.1.2	Worksheet 2.5; Technician's notes 2.5	Quick starter Homework worksheet Homework quiz
2.6	Increasing food production	 Identify the factors that increase food production. Explain how these factors can be controlled. Evaluate the benefits of manipulating the environment to increase food production. 	4.4.1.2	Worksheet 2.6; Technician's notes 2.6	Quick starter Homework worksheet Homework quiz Slideshow Video
2.7	Key concept: Diffusion in living systems	 Use concentration gradients to explain the direction of diffusion. Apply the principles of diffusion to movement of different substances in plants. 	4.1.3.1	Worksheets 2.7.1, 2.7.2 and 2.7.3; Practical sheet 2.7; Technician's notes 2.7	Quick starter Homework worksheet Homework quiz Slideshow Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
2.8	Looking at stomata	 Describe transpiration in plants. Explain the structure and function of stomata. Explain the relationship between transpiration and leaf structure. 	4.2.3.1; 4.2.3.2	Worksheet 2.8; Practical sheet 2.8; Technician's notes 2.8	Quick starter Homework worksheet Homework quiz Video
2.9	Moving water	 Describe the structure and function of xylem and roots. Describe how xylem and roots are adapted to absorb water. Explain why plants in flooded or waterlogged soil die. Explain how wilting occurs. 	4.2.3.1; 4.2.3.2	Worksheets 2.9.1, 2.9.2 and 2.9.3; Practical sheet 2.9; Technician's notes 2.9	Quick starter Homework worksheet Homework quiz Video
2.10	Investigating transpiration	 Describe how transpiration is affected by different factors. Explain the movement of water in the xylem. 	4.2.3.2	Worksheet 2.10; Practical sheet 2.10; Technician's notes 2.10	Quick starter Homework worksheet Homework quiz Slideshow
2.11	Moving sugar	 Describe the movement of sugar in a plant as translocation. Explain how the structure of phloem is adapted to its function in the plant. Explain the movement of sugars around the plant. 	4.2.3.2	Worksheet 2.11; Technician's notes 2.11	Quick starter Homework worksheet Homework quiz
2.12	Maths skills: Surface area to volume ratio	 Be able to calculate surface area and volume. Be able to calculate surface area to volume ratio. 		Worksheet 2.12	Quick starter Homework worksheet Homework quiz Slideshow Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Know how to apply ideas about surface area and volume. 			
Assessm	ients	End of chapter test Student Book End of chapter test Collins Connect End of teaching block test Collins Conn			
	-	Chapter 3: Moving			
3.1	Explaining water movement	 Describe how water moves by osmosis in living tissues. Identify factors that affect the rate of osmosis. Explain what the term 'partially permeable membrane' means. 	4.1.3.2	Worksheet 3.1; Practical sheet 3.1; Technician's notes 3.1	Quick starter Homework worksheet Homework quiz Slideshow
3.2	Required practical: Investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue	 Use scientific ideas to develop a hypothesis. Plan experiments to test a hypothesis. Draw conclusions from data and compare these with hypotheses made. 	4.1.3.2	Worksheet 3.2; Practical sheets 3.2.1 and 3.2.2; Technician's notes 3.2	Quick starter Homework worksheet Homework quiz Slideshow
3.3	Learning about active transport	 Describe active transport. Explain how active transport is different from diffusion and osmosis. Explain why active transport is important. 	4.1.3.3	Worksheet 3.3; Technician's notes 3.3	Quick starter Homework worksheet Homework quiz
3.4	Key concept: Investigating the need for transport systems	 Describe how the size of an organism affects the rate of diffusion. Explain how changes in conditions affect the rate of diffusion. 	4.1.3.1	Worksheet 3.4; Practical sheet 3.4; Technician's notes 3.4	Quick starter Homework worksheet Homework quiz Slideshow Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		• Explain the need for exchange surfaces and transport systems using surface area to volume ratio.			
3.5	Explaining enzymes	 Describe what enzymes are and how they work. Explain the lock-and-key theory. Use the collision theory to explain enzyme action. 	4.2.2.1	Worksheet 3.5; Practical sheet 3.5; Technician's notes 3.5	Quick starter Homework worksheet Homework quiz Slideshow
3.6	Required practical: Investigate the effect of pH on the rate of reaction of amylase enzyme	 Describe how safety is managed, apparatus is used and accurate measurements are made. Explain how representative samples are taken. Make and record accurate observations. Draw and interpret a graph from secondary data using knowledge and observations. 	4.2.2.1	Worksheets 3.6.1, 3.6.2 and 3.6.3; Practical sheet 3.6; Technician's notes 3.6	Quick starter Homework worksheet Homework quiz Slideshow
3.7	Learning about the digestive system	 Identify and locate the organs in the digestive system, and describe their functions. Describe how the products of digestion are absorbed into the body. Explain why the small intestine is an efficient exchange surface. 	4.2.2.1	Worksheet 3.7; Practical sheet 3.7 (teacher demonstration); Technician's notes 3.7	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
3.8	Explaining digestion	 Describe how physical digestion helps to increase the rate of chemical digestion. Name the sites of production and action of specific enzymes. Interpret data about digestive enzymes. 	4.2.2.1	Worksheet 3.8	Quick starter Homework worksheet Homework quiz
3.9	Required practical: Use qualitative reagents to test for a range of carbohydrates, lipids and proteins	 Suggest appropriate apparatus for the procedures. Describe how safety is managed and apparatus is used. Describe how accurate measurements are made. Interpret observations and make conclusions. 	4.2.2.1	Practical sheets 3.9.1 and 3.9.2; Technician's notes 3.9	Quick starter Homework worksheet Homework quiz
3.10	Learning about plants and minerals	 Describe how mineral ions from the soil help plants to grow. Explain how root hair cells are adapted for efficient osmosis. Describe the function of different mineral ions in a plant. 	4.1.3.3; 4.2.3.2	Worksheet 3.10	Quick starter Homework worksheet Homework quiz
3.11	Investigating how plants use minerals	 Describe why plants need different mineral ions. Explain the effects of mineral deficiencies on plant growth. Explain the importance of fertilisers. 	4.1.3.3	Worksheet 3.11; Practical sheet 3.11; Technician's notes 3.11	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
3.12	Learning about the circulatory system	 Identify the parts of the circulatory system. Describe the functions of the parts of the circulatory system. Explain how the structure of each part of the circulatory system relates to its function. 	4.2.2.2; 4.2.2.3	Worksheets 3.12.1, 3.12.2 and 3.12.3; Practical sheets 3.12.1 and 3.12.2; Technician's notes 3.12	Quick starter Homework worksheet Homework quiz
3.13	Exploring the heart	 Describe the structure and functions of the heart. Identify the functions and adaptations of the parts of the heart. Explain the movement of blood around the heart. 	4.2.2.2	Worksheet 3.13; Practical sheet 3.13; Technician's notes 3.13	Quick starter Homework worksheet Homework quiz Slideshow Videos
3.14	Studying blood	 Identify the parts of the blood and their functions. Explain the adaptations of red blood cells. Explain how red blood cells and haemoglobin transport oxygen efficiently. 	4.2.2.3	Worksheets 3.14.1 and 3.14.2	Quick starter Homework worksheet Homework quiz Video
3.15	Investigating gas exchange	 Identify the parts of the human gas exchange system and know their functions. Explain how gas exchange occurs in humans. Explain the adaptations of the gas exchange surfaces. 	4.1.3.1; 4.2.2.2	Worksheet 3.15; Practical sheet 3.15; Technician's notes 3.15	Quick starter Homework worksheet Homework quiz Video
3.16	Learning about coronary heart disease	 Identify the causes and symptoms of coronary heart disease and heart failure. 	4.2.2.4	Worksheets 3.16.1, 3.16.2 and 3.16.3	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Describe possible treatments of coronary heart disease and heart failure. Evaluate the possible treatments of coronary heart disease and heart failure. 			
3.17	Maths skills: Extracting and interpreting information	 To extract and interpret information from tables, charts and graphs. 		Worksheets 3.17.1, 3.17.2 and 3.17.3	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessm	ents	End of chapter test Student Book End of chapter test Collins Connect			
	1		I: Health matters		1
4.1	Learning about health	 Recall the difference between health and disease. Explain how some diseases interact. Evaluate data about lifestyle and health. 	4.2.2.6; 4.2.2.7	Worksheets 4.1.1, 4.1.2 and 4.1.3; Practical sheet 4.1; Technician's notes 4.1	Quick starter Homework worksheet Homework quiz
4.2	Key concept: Looking at risk factors	 Recall the causes of some non-communicable diseases. Describe the impact of lifestyle on non-communicable diseases. Explain the impact of lifestyle on non-communicable diseases. 	4.2.2.6	Worksheets 4.2.1 and 4.2.2	Quick starter Homework worksheet Homework quiz Slideshow Video
4.3	Exploring non- communicable diseases	 Identify risk factors for cancer. Explain the differences between types of tumours. 	4.2.2.6; 4.2.2.7	Worksheet 4.3; Practical sheet 4.3; Technician's notes 4.3	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		Explain the impact of non- communicable diseases			
4.4	Analysing and evaluating data	 Translate information between graphical and numerical forms. Use scatter diagrams to identify correlations. Evaluate the strength of evidence. 	4.2.2.5; 4.2.2.6	Worksheets 4.4.1, 4.4.2 and 4.4.3; Practical sheet 4.4; Technician's notes 4.4	Quick starter Homework worksheet Homework quiz
4.5	Studying pathogens	 Recall the definition of a pathogen. Explain how communicable diseases can be controlled. Distinguish between epidemics and pandemics. 	4.3.1.1	Worksheets 4.5.1 and 4.5.2	Quick starter Homework worksheet Homework quiz Videos
4.6	Learning about viral diseases	 Describe the symptoms of some viral diseases. Describe the transmission and control of some viral diseases. Explain how some viral diseases are spread. 	4.3.1.2	Worksheets 4.6.1, 4.6.2 and 4.6.3	Quick starter Homework worksheet Homework quiz Slideshow
4.7	Studying bacterial diseases	 Describe the symptoms of some bacterial diseases. Explain how some bacterial diseases can be controlled. Compare and contrast bacterial and viral diseases. 	4.3.1.3	Worksheets 4.7.1, 4.7.2 and 4.7.3	Quick starter Homework worksheet Homework quiz
4.8	Looking at fungal diseases	 Recall the name and symptoms of a fungal disease. Describe the transmission and treatment of rose black spot. Explain how rose black spot affects the growth of the plant. 	4.3.1.4	Worksheet 4.8	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
4.9	Learning about malaria	 Recall that malaria is a protist disease. Describe the lifecycle of the malarial vector. 	4.3.1.5	Worksheets 4.9.1 and 4.9.2	Quick starter Homework worksheet Homework quiz
4.10	Protecting the body	 Describe how the body protects itself from pathogens. Explain how the body protects itself from pathogens. Explain how communicable diseases can be spread. 	4.3.1.6	Worksheets 4.10.1, 4.10.2 and 4.10.3	Quick starter Homework worksheet Homework quiz
4.11	Exploring white blood cells	 Describe phagocytosis. Explain how antibody production can lead to immunity. Explain the specificity of immune system responses 	4.3.1.6	Worksheets 4.11.1, 4.11.2 and 4.11.3	Quick starter Homework worksheet Homework quiz
4.12	Using antibiotics and painkillers	 Describe the uses of antibiotics and painkillers. Explain how antibiotics and painkillers can be used to treat diseases. Explain the limitations of antibiotics. 	4.3.1.8; 4.6.3.4	Worksheet 4.12; Practical sheet 4.12; Technician's notes 4.12	Quick starter Homework worksheet Homework quiz
4.13	Building immunity	 Recall how vaccinations prevent infection. Explain how mass vaccination programmes reduce the spread of a disease. Evaluate the global use of vaccination. 	4.3.1.7	Worksheets 4.13.1, 4.13.2 and 4.13.3	Quick starter Homework worksheet Homework quiz Slideshow Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
4.14	Making new drugs	 Recall some traditional drugs and their origins. Describe how new drugs are developed. Explain why 'double-blind' trials are conducted. 	4.3.1.9	Worksheets 4.14.1 and 4.14.2; Practical sheet 4.14; Technician's notes 4.14	Quick starter Homework worksheet Homework quiz Slideshow Video
4.15	Maths skills: Sampling and scientific data	 Understand why sampling is used in science. Be able to explain different sampling techniques. Be able to extract and interpret information from graphs. 		Worksheet 4.15; Practical sheet 4.15; Technician's notes 4.15	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessm	ents	End of chapter test Student Book End of chapter test Collins Connect End of teaching block test Collins Conn End of year test Collins Connect	ect ordination and c	ontrol	
5.1	Homeostasis	 Explain the importance of homeostasis in regulating internal conditions in the body. Recall that these control systems involve nervous or chemical responses. Describe how control systems involve receptors, coordination centres and effectors. 	4.5.1	Worksheets 5.1.1 and 5.1.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
5.2	The nervous system	 Explain how the nervous system is adapted to its functions. Describe the structure of the central nervous system and nerves. 	4.5.2	Worksheets 5.2.1 and 5.2.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
5.3	Reflex actions	 Explain the importance of reflex actions. Describe the path of a reflex arc. Explain how the structures in the reflex arc relate to their function. 	4.5.2	Worksheets 5.3.1, 5.3.2 and 5.3.3; Practical sheet 5.3; Technician's notes 5.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow
5.4	Required practical: Investigating reaction time	 Select appropriate apparatus and techniques for the measurement of biological processes. Carry out physiological experiments safely. Use appropriate techniques in problem-solving contexts. 	4.5.2.1	Worksheets 5.4.1, 5.4.2 and 5.4.3; Practical sheet 5.4; Technician's notes 5.4	Quick starter Homework worksheet Homework quiz Slideshow
5.5	The endocrine system	 Recall that the endocrine system is made up of glands that secrete hormones into the blood. Know the location of the major endocrine glands. Understand why the pituitary gland is the 'master gland'. 	4.5.3.1	Worksheets 5.5.1 and 5.5.2	Quick starter Homework worksheet Homework quiz
5.6	Controlling blood glucose	 Recall that blood glucose is monitored and controlled by the pancreas. Understand how insulin controls blood glucose levels. Understand how insulin works with another hormone – glucagon – to control blood sugar levels. 	4.5.3.2; 4.5.3.6	Worksheets 5.6.1, 5.6.2 and 5.6.3	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
5.7	Diabetes	 Understand the causes of Type 1 and Type 2 diabetes. Compare Type 1 and Type 2 diabetes. Evaluate information on the relationship between obesity and diabetes, and make appropriate recommendations. 	4.5.3.2; 4.5.3.6	Worksheets 5.7.1 and 5.7.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Video
5.8	Diabetes recommendations	 Understand the causes of Type 1 and Type 2 diabetes. Compare Type 1 and Type 2 diabetes. Evaluate information on the relationship between obesity and diabetes, and make appropriate recommendations. 	4.5.3.2; 4.5.3.6	Worksheet 5.8	Quick starter Homework worksheet Homework quiz Slideshow
5.9	Negative feedback (Higher tier only)	 Explain the role of thyroxine in the body. Understand the principles of negative feedback, as applied to thyroxine. 	4.5.3.6	Worksheet 5.9; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
5.10	Human reproduction	 Describe the roles of hormones in sexual reproduction. Explain how hormones interact in the menstrual cycle. 	4.5.3.3	Worksheets 5.10.1 and 5.10.2	Quick starter Homework worksheet Homework quiz
5.11	IVF (Higher tier only)	 Explain the use of hormones in technologies to treat infertility. Describe the technique of <i>in-vitro</i> fertilisation. 	4.5.3.5	Worksheet 5.11; PowerPoint presentation	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		• Evaluate the scientific, emotional, social and ethical issues of <i>in-vitro</i> fertilisation.			
5.12	IVF evaluation (Higher tier only)	 Describe the technique of <i>invitro</i> fertilisation. Evaluate the scientific, emotional, social and ethical issues of <i>invitro</i> fertilisation. 	4.5.3.5	Worksheet 5.12	Quick starter Homework worksheet Homework quiz
5.13	Systems working together (Higher tier only)	 Describe the effects of adrenaline. Understand that automatic control systems may involve nervous responses and chemical responses. Understand that combinations of hormones work to produce a response. 	4.5.3.6	Worksheet 5.13	Quick starter Homework worksheet Homework quiz
5.14	Contraception	 Understand that fertility can be controlled by different hormonal and non-hormonal methods of contraception. Evaluate the different methods of contraception. 	4.5.3.4	Worksheets 5.14.1 and 5.14.2	Quick starter Homework worksheet Homework quiz
5.15	Which contraceptive?	 Understand that fertility can be controlled by different hormonal and non-hormonal methods of contraception. Evaluate the different methods of contraception. 	4.5.3.4	Worksheet 5.15	Quick starter Homework worksheet Homework quiz
5.16	Maths skills: The spread of scientific data	Be able to calculate means and ranges of data.		Worksheets 5.16.1, 5.16.2 and 5.16.3	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		Understand how to estimate uncertainty from a set of measurements.			Video
Assessm	ients	End of chapter test Student Book End of chapter test Collins Connect	er 6: Genetics		
6.1	DNA and genes	 Describe the structure of DNA. Describe a gene as a small section of DNA that codes for a protein. 	4.6.1.3	Worksheet 6.1; Practical sheet 6.1; Technician's notes 6.1	Quick starter Homework worksheet Homework quiz Slideshow Video
6.2	The human genome	 Describe a gene as a small section of DNA that codes for a protein. Explain the importance of understanding the human genome. 	4.6.13	Worksheet 6.2	Quick starter Homework worksheet Homework quiz
6.3	Tracing human migration	 Explain the importance of understanding the human genome. Discuss the use of the human genome in understanding human migration patterns. 	4.6.1.3	Worksheets 6.3.1 and 6.3.2	Quick starter Homework worksheet Homework quiz
6.4	Meiosis	 Explain how meiosis halves the number of chromosomes for gamete production. Explain how fertilisation restores the chromosome number. Understand that the four gametes produced by meiosis are genetically different. 	4.6.1.1; 4.6.1.2; 4.6.1.4; 4.6.1.6	Worksheets 6.4.1 and 6.4.2	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
6.5	Asexual and sexual reproduction	 Understand that asexual reproduction involves just one parent and produces genetically identical offspring. Understand that sexual reproduction leads to variety in the offspring. 	4.6.1.1	Worksheets 6.5.1 and 6.5.2	Quick starter Homework worksheet Homework quiz Slideshow
6.6	Genetics	 Understand and be able to use genetics terms, such as dominant, recessive, genotype, phenotype, homozygous and heterozygous. Know that some human conditions are caused by a recessive allele. 	4.6.1.4; 4.6.1.5	Worksheets 6.6.1 and 6.6.2	Quick starter Homework worksheet Homework quiz Video
6.7	Genetic crosses	 Use the terms dominant, recessive, genotype, phenotype, homozygous and heterozygous. Know that some human conditions, such as cystic fibrosis, are caused by a recessive allele. Complete or construct a Punnett square to predict the outcome of a genetic cross. 	4.6.1.4; 4.6.1.5	Worksheets 6.7.1, 6.7.2 and 6.7.3	Quick starter Homework worksheet Homework quiz Video
6.8	Tracking gene disorders	 Understand the use of a family tree to show the inheritance of a characteristic. Explain economic, social and ethical issues concerned with embryo screening. 	4.6.1.4; 4.6.1.5	Worksheets 6.8.1 and 6.8.2	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
6.9	Key concept: Genetics is simple – or is it?	 Explain how certain characteristics are controlled by a single gene. Understand that many characteristics are the result of multiple genes which interact. Describe the search for genes that are linked to disease. 	4.6.1.4; 4.6.1.5	Worksheet 6.9	Quick starter Homework worksheet Homework quiz Slideshow Video
6.10	Maths skills: Fractions, ratio, proportion and probability	 Understand and use fractions and percentages. Understand and use ratio and proportion. Understand and use probability when predicting the outcomes of genetic crosses. 	4.6.1.4	Practical sheet 6.10; Technician's notes 6.10	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessm	ients	End of chapter test Student Book End of chapter test Collins Connect End of teaching block test Collins Conn	ect		
			riation and evolu	tion	
7.1	Variation	 Recall that differences in the characteristics of individuals in a population is called variation. Understand the genetic and environmental differences leading to variation. 	4.6.2.1	Worksheets 7.1.1, 7.1.2 and 7.1.3; Practical sheet 7.1; Technician's notes 7.1; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
7.2	The theory of evolution	 Recall that all species of living things have evolved from simple life forms. Explain how evolution occurs through natural selection. 	4.6.2.1; 4.6.2.2	Worksheets 7.2.1, 7.2.2 and 7.2.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
7.3	The origin of species by natural selection	 Explain the evidence that led Darwin to propose the theory of evolution by natural selection. Describe the process of natural selection. 	4.6.3.1	Worksheets 7.3.1 and 7.3.2; Practical sheet 7.3; Technician's notes 7.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Video
7.4	Fossil evidence	 Understand how, and the situations in which, fossils are formed. Understand how fossils are used as evidence for evolution of species from simpler life forms. 	4.6.3.1; 4.6.3.2	Worksheets 7.4.1 and 7.4.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
7.5	How much have organisms changed?	 Understand why the fossil record is incomplete. Use the fossil record to understand how much, or how little, organisms have changed as life developed on Earth. 	4.6.3.1; 4.6.3.2	Worksheets 7.5.1, 7.5.2 and 7.5.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
7.6	Evidence of natural selection and evolution?	 Understand how scientific theories develop over time. Plan experiments to test hypotheses 	4.6.3.4	Worksheet 7.6; Practical sheets 7.6.1 and 7.6.2	Quick starter Homework worksheet Homework quiz Slideshow
7.7	Antimicrobial resistance	 Recall that bacteria develop that are resistant to antibiotics, which is evidence of evolution. Understand the mechanism by which antibiotic resistance develops. Understand the effects of the development of antibiotic 	4.6.3.4	Worksheets 7.7.1, 7.7.2 and 7.7.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		resistance on the treatment of disease.			
7.8	Combatting antimicrobial resistance	 Describe how to reduce the rate of development of antibiotic resistance. Understand the requirement for, and the impact of, new antibiotics. Recognise the difficulties associated with developing new antibiotics. 	4.6.3.4	Worksheets 7.8.1 and 7.8.2	Quick starter Homework worksheet Homework quiz
7.9	Selective breeding	 Describe the process of selective breeding. Recall how selective breeding enables humans to choose desirable characteristics in animals and plants. Explain how selective breeding can lead to inbreeding. 	4.6.2.3	Worksheets 7.9.1 and 7.9.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow
7.10	Producing new plant varieties	 Describe the process of selective breeding. Recall how selective breeding enables humans to choose desirable characteristics in plants. Evaluate the benefits and risks of selective breeding in plants. 	4.6.2.3	Worksheets 7.10.1 and 7.10.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
7.11	Genetic engineering	 Explain what is meant by the term genetic engineering. Give examples of how plant crops have been genetically 	4.6.2.4	Worksheets 7.11.1 and 7.11.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 engineered to improve products. Describe how fungus cells are engineered to produce human insulin 			
7.12	Genetically modified crops: the science	 Explain the benefits of genetic modification in a range of crops. Explain the concerns about genetic modification. Explain the ethical concerns about genetic engineering. 	4.6.2.4	Worksheet 7.12	Quick starter Homework worksheet Homework quiz
7.13	Is genetic modification safe?	 Explore the benefits of genetic modification in medicine. Explain the concerns that people have about genetic modification. Explain the possible safety issues of genetic engineering in agriculture and medicine. 	4.6.2.4	Worksheets 7.13.1 and 7.13.2; PowerPoint presentation	Quick starter Homework worksheet Homework quiz
7.14	Ethically wrong, or essential?	 Explain the benefits of, and concerns about, genetic modification. Explain the ethical issues of genetic engineering in agriculture and medicine. 	4.6.2.4	Worksheets 7.14.1, 7.14.2 and 7.14.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow
7.15	The tree of life	 Describe how living things have been classified into groups using a system devised by Linnaeus. Describe how new models of classification have developed. 	4.6.4	Worksheets 7.15.1, 7.15.2 and 7.15.3	Quick starter Homework worksheet Homework quiz Video

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
7.16	Extinctionor survival?	 List the causes of extinction. Explain how new predators, competitors and diseases can lead to extinctions. 	4.6.3.3	Worksheets 7.16.1, 7.16.2 and 7.16.3; PowerPoint presentation	Quick starter Homework worksheet Homework quiz Slideshow Video
7.17	Maths skills: Using charts and graphs to display data	 Understand when and how to use bar charts. Understand how to show sub-groups on bar charts. Understand how to plot histograms. 		Worksheets 7.17.1 and 7.17.2	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessm	ents	End of chapter test Student Book End of chapter test Collins Connect			
			Ecology in actio	n	
8.1	Key concept: Learning about ecosystems	 Describe what an ecosystem is. Explain the importance of high biodiversity. Explain what is meant by a self-supporting ecosystem 	4.7.1.1; 4.7.3.1	Worksheets 8.1.1, 8.1.2 and 8.1.3	Quick starter Homework worksheet Homework quiz Slideshow Video
8.2	Investigating predator–prey relationships	 Describe how changes in one population affect another. Explain interdependent relationships. Explain how predator-prey population cycles have cyclical changes. 	4.7.2.1	Worksheets 8.2.1 and 8.2.2; Practical sheet 8.2; Technician's notes 8.2	Quick starter Homework worksheet Homework quiz
8.3	Changing abiotic factors	 Identify factors that affect ecosystems. Explain changes in the distribution of species in an ecosystem. 	4.7.1.2	Worksheets 8.3.1, 8.3.2 and 8.3.3; Practical sheets 8.3.1 and 8.3.2; Technician's notes 8.3	Quick starter Homework worksheet Homework quiz Slideshow

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Describe stable and unstable populations. 			
8.4	Competing for resources	 Describe how competition impacts on populations. Explain why animals in the same habitat are in competition. Explain interspecific and intraspecific competition. 	4.7.1.1	Worksheets 8.4.1, 8.4.2 and 8.4.3	Quick starter Homework worksheet Homework quiz Slideshow
8.5	Required practical: Measure the population size of a common species in a habitat	 Use scientific ideas to develop a hypothesis. Plan experiments to test a hypothesis. Explain the apparatus and techniques used to sample a population. Explain how a representative sample was taken. Develop a reasoned explanation for some data. 	4.7.2.1	Worksheet 8.5; Practical sheet 8.5; Technician's notes 8.5	Quick starter Homework worksheet Homework quiz Slideshow
8.6	Adapting for survival in animals	 Recall why animals have adaptations. Explain some adaptations. Use surface area to volume ratios to explain some adaptations. 	4.7.1.4	Worksheets 8.6.1; 8.6.2 and 8.6.3; Practical sheet 8.6; Technician's notes 8.6	Quick starter Homework worksheet Homework quiz Slideshow
8.7	Adapting for survival in plants	 Identify some adaptations of plants and bacteria. Explain the importance of plant adaptations. Explain a range of plant adaptations. 	4.7.1.4	Worksheets 8.7.1, 8.7.2 and 8.7.3; Practical sheet 8.7; Technician's notes 8.7	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
8.8	Cycling materials	 Recall that many materials are recycled in nature. Explain the stages in the water and decay cycles. Explain the importance of recycling materials. 	4.7.2.2	Worksheets 8.8.1 and 8.8.2; Practical sheet 8.8 (demonstration); Technician's notes 8.8	Quick starter Homework worksheet Homework quiz Video
8.9	Cycling carbon	 Recall that plants take in carbon as carbon dioxide. Explain how carbon is recycled. Interpret a diagram of the carbon cycle. 	4.7.2.2	Worksheets 8.9.1 and 8.9.2; Practical sheet 8.9; Technician's notes 8.9	Quick starter Homework worksheet Homework quiz Video
8.10	Learning about land use	 Identify why land use has changed. Describe the effects of changing land use. Evaluate a change in land use. 	4.7.3.3	Worksheets 8.10.1 and 8.10.2	Quick starter Homework worksheet Homework quiz Video
8.11	Changing the landscape	 State the reasons for deforestation. Understand the impact of peat bog destruction and deforestation. Evaluate the destruction of peat bogs and forests. 	4.7.3.3; 4.7.3.4	Worksheets 8.11.1 and 8.11.2	Quick starter Homework worksheet Homework quiz
8.12	Thinking about global warming	 Recall what global warming is. Describe the causes of global warming. Explain how global warming impacts on biodiversity. 	4.7.3.5	Worksheet 8.12	Quick starter Homework worksheet Homework quiz Slideshow Videos
8.13	Looking at waste management	Describe how waste production is linked to human population growth.	4.7.3.2	Worksheet 8.13	Quick starter Homework worksheet Homework quiz

Lesson number	Lesson title	Lesson objectives	AQA specification reference	Lesson resources (on CD ROM)	Collins Connect resources
		 Describe the impact of waste on ecosystems. Explain how waste impacts on biodiversity. 			Video
8.14	Investigating pollution	 Identify pollution levels using indicator species. Explain how indicator species measure pollution. Compare different methods of measuring pollution. 	4.7.3.2	Worksheets 8.14.1 and 8.14.2; Practical sheet 8.14; Technician's notes 8.14	Quick starter Homework worksheet Homework quiz
8.15	Maintaining biodiversity	 Describe some conservation measures. Describe the impact of breeding programmes. Explain how habitats are regenerated. 	4.7.3.6	Worksheets 8.15.1, 8.15.2 and 8.15.3	Quick starter Homework worksheet Homework quiz Videos
8.16	Maths skills: Using graphs to show relationships	 To recognise direct proportionality in a graph. To calculate reaction rates in linear graphs. To use the gradient of a graph to calculate the rate. 		Worksheet 8.16	Quick starter Homework worksheet Homework quiz Slideshow Video
Assessments		End of chapter test Student Book End of chapter test Collins Connect End of teaching block test Collins Conn End of course test Collins Connect	ect		