

National curriculum or specification coverage

4.1 Cell Biology

- 4.1.3 Transport in cells

4.2 Organisation

- Required Practical Activity 4: pH and Amylase
- 4.2.1 Principles of organisation
- 4.2.2 Animal tissues, organs and organ systems
- 4.2.2 Enzymes
- 4.2.3 Plant tissues, organs and systems

4.3 Infection and response

- 4.3.1 Communicable diseases
- 4.3.2 Monoclonal antibodies (biology only) (HT only)
- 4.3.3 Plant disease (biology only)

4.4 Bioenergetics

- 4.4.1 Photosynthesis
- 4.4.2 Respiration

4.5 Homeostasis and response

- 4.5.1 Homeostasis
- 4.5.2 The human nervous system
- 4.5.3 Hormonal coordination in humans

Date	Exams/ Assessments	Learning Intentions	Core Task/Assessments
31/08/26		Organisation (Enzymes & Digestion) • Explain how enzymes aid digestion using the lock-and-key theory. • Describe how temperature and pH affect enzyme activity. • Calculate reaction rate from a tangent and interpret enzyme graphs. • Explain why enzymes are needed for digestion. • Identify enzymes, where they are produced, the food they act on, and their products. • Complete the amylase required practical. Bioenergetics • Compare aerobic and anaerobic respiration, including word equations and why respiration is exothermic.	• 10HT1 Strip analysis • 10HT1 Multiple choice
07/09/26			
14/09/26			
21/09/26			
28/09/26			
05/10/26			
12/10/26			
19/10/26			

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		- Explain energy uses in organisms and responses to exercise. - Describe anaerobic respiration in animals, plants, and microorganisms, and uses of fermentation. - Define metabolism with examples. (H) Explain the liver's role in repaying oxygen debt. Transport in Cells - Compare diffusion, osmosis, and active transport, and explain why active transport is important. Plant Organisation & Photosynthesis - Describe transport in plants, including xylem, phloem, transpiration, stomata, and guard cells. - Identify leaf tissues using a microscope and relate structure to function. - Explain factors affecting transpiration and make predictions in investigations. - Estimate stomata numbers using sampling. - Describe leaf adaptations for photosynthesis and write the balanced photosynthesis equation.	
26/10/26	HALF TERM		
02/11/26		Photosynthesis - Describe the starch test and how it proves photosynthesis in light. - Explain limiting factors (light, carbon dioxide, temperature, chlorophyll) and interpret related graphs. - Describe how plants use glucose, including protein production. - Evaluate risks of the starch test. - Explain how greenhouses and hydroponics increase plant growth and assess the cost-effectiveness of adding heat, light, or carbon dioxide. B2 Organisation (Health & Disease) - Name common non-communicable diseases and their risk factors. - Identify correlations in data. - Define tumours and describe causes of cancer, including carcinogens and ionising radiation. - Explain the benefits and risks of chemotherapy. - Describe health effects of smoking, poor diet, lack of exercise, alcohol, and obesity, including type 2 diabetes prevention. - Explain how exercise improves health. B3 Infection and Response - Compare communicable and non-communicable diseases and identify correlations using scatter graphs. - Explain how bacteria and viruses cause disease and why diseases spread rapidly after natural disasters. - Distinguish between antiseptics, disinfectants, and antibiotics. - Describe methods of preventing disease spread and communicating public health advice. - Describe the causes, effects, and control of measles, HIV, tobacco mosaic virus, salmonella, gonorrhoea, rose black spot, and malaria.	10HT2 Strip analysis 10HT2 Multiple choice
09/11/26			
16/11/26	Y10		
23/11/26	Y10		
30/11/26			
07/12/26			
14/12/26			

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21/12/26	CHRISTMAS HOLIDAY		10HT3 Strip analysis 10HT3 Multiple choice
28/12/26			
04/01/27	Infection & Response - Describe the body's defence mechanisms, including white blood cells, antigens, antibodies, and vaccination. - Explain how antibiotics work, antibiotic resistance, and why viral infections are difficult to treat. - Explain the stages of drug testing, including double-blind trials and the use of placebos. SEPS only <i>Describe what monoclonal antibodies are, how they are produced, their uses, and their advantages and disadvantages, including cancer treatment.</i> <i>Explain the importance of uncontaminated bacterial cultures and safe preparation, incubation, and disposal.</i> <i>Complete Bacterial growth required practical</i> <i>Calculate bacterial population growth and the area of clear zones using nr^2.</i> <i>Monoclonal Antibodies & Plant Disease</i> <i>Explain how plant diseases are detected and identified, how they damage plants, recognise ion deficiencies, and classify plant defences as physical, chemical, or mechanical.</i>		
11/01/27			
18/01/27			
25/01/27			
01/02/27			
08/02/27			
15/02/27	HALF TERM		10HT4 Strip analysis 10HT4 Multiple choice
22/02/27	B5 Homeostasis and Response - Explain why homeostasis is essential, using enzymes and osmosis. - Compare nervous and hormonal responses. - Describe how the nervous system works, including synapses and the effects of drugs. - Complete the Reaction time required practical. SEPS <i>(H) Evaluate the benefits, risks, and ethical issues of brain research and treatments.</i> <i>Plan a scientific investigation to test a hypothesis.</i> - Explain how the eye responds to light, accommodation, and the causes and treatments of long- and short-sightedness. <i>Draw and interpret ray diagrams for vision and accommodation.</i> <i>Evaluate the risks and benefits of surgery to treat long and short sightedness.</i> <i>(H) Explain in detail how mechanisms lower or raise body temperature.</i> <i>Explain how the body regulates temperature and why extreme temperatures are dangerous.</i> <i>Explain why it is dangerous if body temperature is too high or too low.</i>		
01/03/27			
08/03/27			
15/03/27			
22/03/27			
29/03/27		SPRING BREAK	
05/04/27			
12/04/27	B5 Homeostasis and Response Compare nervous and hormonal control and explain how changes in hormone production affect the body.		
19/04/27		Y10	
26/04/27		Y10	

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03/05/27			
10/05/27			
17/05/27			
24/05/27		- Explain how insulin and glucagon regulate blood glucose using negative feedback, and why glucose levels must be controlled. - Evaluate treatments for Type 1 diabetes and explain how lifestyle affects the risk of Type 2 diabetes. (H) Explain the role of adrenaline in the fight-or-flight response. SEPS - Calculate percentage changes in water balance. - Explain the roles of the liver, kidneys, ADH, filtration, selective reabsorption, and dialysis, including interpreting urine test results. - Evaluate dialysis and kidney transplants using scientific, ethical, social, and economic arguments. B5 Homeostasis and Response - Explain the roles and interactions of hormones in the menstrual cycle and interpret related graphs. - Explain how hormonal contraceptives work and evaluate different methods of contraception.	
31/05/27		HALF TERM	
07/06/27			
14/06/27			
21/06/27			
28/06/27			
05/07/27			
12/07/27		SEPS - Describe how auxin affects plant growth in shoots and roots through production and diffusion. - Plan investigations into light and plant growth, predict results, and explain tropisms scientifically. - Explain how plant hormones are used in agriculture, horticulture, and food production, including evaluating synthetic hormones. B7 Ecology - Describe the uses of quadrats, transects, and sampling methods to estimate populations. - Measure abiotic factors using appropriate equipment. - Define ecosystems, populations, and communities. - Explain how species depend on each other within ecosystems.	10HT6 Strip analysis 10HT6 Multiple choice