

Scheme of work for Chapter 6, *Human health and physiology I*

Syllabus section	Content	Time required	Outline of lesson content	Coursebook resources	Worksheets	Teacher's resources / Teaching ideas
6.1	Digestion	2–3 lessons	<ul style="list-style-type: none"> Explain why digestion of food is necessary and describe the role of enzymes in digestion; summarize the source, substrates, products and optimum conditions for a protease, amylase and lipase Draw and label the digestive system and outline the functions of the stomach, small intestine and large intestine; explain the detailed structure of a villus and its importance in absorption 	p130–134 Short-answer Qs p134 End-of-chapter Qs p164–169: Q1, Q7, Q13	Support: Q1 Extension: Q1	This topic can be used for practical assessment or taught in conjunction with aspects of Chapter 3 Practical activity: modelling the alimentary canal Link to ICT: data logging and enzyme activity
6.2	The transport system	3 lessons	<ul style="list-style-type: none"> Study the structure and function of the heart, arteries, capillaries and veins, including the structure of valves, which control blood flow Outline the control of heart beat including nervous and hormonal control Outline the components of the blood and list the substances carried in the bloodstream 	p134–140 TOK p139 Short-answer Qs p140 End-of-chapter Qs p164–169: Q2, Q8	Support: Q2 Extension: Q2	Practical activities: video clips; dissection of animal heart Link to ICT: heart rate monitoring using data loggers
6.3	Defence against infectious disease	3–4 lessons	<ul style="list-style-type: none"> Define pathogen and explain why antibiotics are only effective against bacteria Outline the role of skin, mucous membranes and phagocytic leucocytes in defending the body against pathogens Explain antibody production in response to antigens Discuss the effect of HIV on the immune system and the cause, transmission and social implications of HIV/AIDS 	p140–146 TOK p142 Short-answer Qs p146 End-of-chapter Qs p164–169: Q3, Q9, Q10	Support: Q3 Extension: Q3	For HL students this topic can be taught in conjunction with 11.1 Practical activity: discussion of pros and cons of antibiotics Link to TOK: risk taking and HIV Link to Aspects of internationalism: antibiotics

6.4	Gas exchange	2 lessons	<ul style="list-style-type: none"> Distinguish between ventilation and respiration and explain why ventilation is necessary; explain the process of ventilation Draw and describe the ventilation system and adaptations of alveoli for gas exchange 	<p>p146–149</p> <p>Short-answer Qs p148–149</p> <p>End-of-chapter Qs p164–169: Q4, Q14</p>	<p>Support: Q4</p> <p>Extension: Q4</p>	<p>Practical activity: opportunity for assessed practical investigating breathing or heart rate and exercise</p> <p>Link to ICT: data logging</p> <p>Exemplar exam question</p>
6.5	Nerves, hormones and homeostasis	6 lessons	<ul style="list-style-type: none"> Study the structure of the nervous system, including the CNS, a motor neuron and the connections between sensory and relay neurons Explain how a nerve impulse passes along a non-myelinated neuron, defining 'resting potential' and 'action potential' Explain how an impulse is transmitted at a synapse Identify the glands of the endocrine system and outline the aspects of the internal environment that they control; explain how levels are monitored and corrected by negative feedback Explain the control of body temperature Explain the control of blood glucose concentration; distinguish between type I and type II diabetes 	<p>p149–157</p> <p>Short-answer Qs p157</p> <p>End-of-chapter Qs p164–169: Q5, Q11</p>	<p>Support: Q5</p> <p>Extension: Q5</p>	<p>Link to Aspects of internationalism: type II diabetes worldwide</p>
6.6	Reproduction	3 lessons	<ul style="list-style-type: none"> Draw the male and female reproductive systems Outline the roles of testosterone Outline the roles of FSH, LH, estrogen and progesterone in the menstrual cycle and illustrate the relationship between the level of hormones and the stages of the menstrual cycle Outline the procedures used in IVF and discuss the ethical issues associated with IVF 	<p>p157–164</p> <p>TOK p162, p164</p> <p>End-of-chapter Qs p164–169: Q6, Q12, Q15</p>	<p>Support: Q6</p> <p>Extension: Q6</p>	<p>For HL students this can be taught in conjunction with 11.4</p> <p>Link to Aspects of internationalism: IVF in different cultures</p>

Note: 1 lesson = approximately 40 minutes