

Biology Long Term Programme of Study Year 10 2023-2024

Temperance Term

W/C	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	HALF TERM
Area of Study	B3 Infection and Response					B4 Bioenergetics		
Core Learning	<p>B3 - Students should be able to explain how diseases caused by viruses, bacteria, protists and fungi are spread in animals and plants.</p> <ul style="list-style-type: none"> -Explain how diseases caused by pathogens are spread in animals and plants. -Describe diseases caused by viruses, bacteria, fungi and protists. -Describe the defence systems of the human body and explain the role of the immune system. -WS 1.4 Evaluate the global use of vaccination in the prevention of disease. -Describe the development of new medicines. -WS 1.6 Understand the role of peer review before publishing results of trials. 					<p>B4 - Describe and explain the processes of respiration and photosynthesis</p> <ul style="list-style-type: none"> -State the word and symbol equations for photosynthesis. -MS Measure and calculate the rate of photosynthesis as well as extract and interpret graphs. -RP Investigate the effect of light intensity on the rate of photosynthesis -Describe the uses of glucose from photosynthesis. -Explain the processes of aerobic and anaerobic respiration, stating the equations. -Explain how the body responds to exercise. 		
Opportunities Challenge	B3 - Justify how the immune system fights against disease successfully.					Explain the importance of sugars, amino acids, fatty acids and glycerol in the synthesis and breakdown of carbohydrates, proteins and lipids.		
Assessment	End of Topic Test					End of Topic Test		

W/C	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	CHRISTMAS
Area of Study	B4 Bioenergetics			B5 – Homeostasis and Response			
Core Learning	<p>B4 - Describe and explain the processes of respiration and photosynthesis</p> <ul style="list-style-type: none"> -State the word and symbol equations for photosynthesis. -MS Measure and calculate the rate of photosynthesis as well as extract and interpret graphs. -RP Investigate the effect of light intensity on the rate of photosynthesis -Describe the uses of glucose from photosynthesis. 			<p>B5 – Describe the structure and function of the nervous system and the hormonal system.</p> <ul style="list-style-type: none"> -Define ‘homeostasis’ -Explain the role of homeostasis in the control of blood glucose, body temperature and water levels. -Describe the structure and function of the nervous system -MS Extract and interpret data from graphs -RP 7 Investigate the effect of a factor on human reaction time. 			

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	<p>-Explain the processes of aerobic and anaerobic respiration, stating the equations. -Explain how the body responds to exercise.</p>	<p>-Explain how the human endocrine system is controlled. -WS 1.3 Evaluate information around the relationship between obesity and diabetes. -Describe the role of hormones in human reproduction, including the menstrual cycle. -WS 1.3 Discuss why the issues regarding contraception cannot be answered by science alone</p>	
Opportunities for Challenge		<p>Explain the role of the reflex arc in reflex actions.</p>	
Assessment	<p>End of Topic Test</p>	<p>End of Topic Test and Temperance Term Assessment</p>	

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Justice Term

W/C	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	HALF TERM
Area of Study	B5 – Homeostasis and Response						
Core Learning	<p>B5 – Describe the structure and function of the nervous system and the hormonal system.</p> <ul style="list-style-type: none"> -Define 'homeostasis' -Explain the role of homeostasis in the control of blood glucose, body temperature and water levels. -Describe the structure and function of the nervous system -MS Extract and interpret data from graphs -RP 7 Investigate the effect of a factor on human reaction time. -Explain how the human endocrine system is controlled. -WS 1.3 Evaluate information around the relationship between obesity and diabetes. -Describe the role of hormones in human reproduction, including the menstrual cycle. -WS 1.3 Discuss why the issues regarding contraception cannot be answered by science alone 						
Opportunities for Challenge	Explain the role of the reflex arc in reflex actions.						
Assessment	End of Topic Test						

W/C	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	EASTER
Area of Study	B6 – Inheritance, Variation and Evolution						
Core Learning	<p>Compare asexual and sexual reproduction, with relation to number of chromosomes and explain how favoured characteristics can be selectively bred.</p> <ul style="list-style-type: none"> -Understand the differences between mitosis and meiosis. -WS 1.2 Model behaviour of chromosomes during meiosis. -Describe the structure of DNA -Describe the importance of the human genome -Draw genetic diagrams to show the possible genotype and phenotype of offspring -MS 1c, 3a use direct proportion and simple ratios to express outcomes of genetic crosses. 						
Opportunities for Challenge	Consider and debate the ethical considerations of screening for genetic disorders.						
Assessment	End of Topic Test and Justice Term Assessment						

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Courage Term

W/C	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	HALF TERM
Area of Study	B6 – Inheritance, Variation and Evolution			Revision			
Core Learning	<p>Compare asexual and sexual reproduction, with relation to number of chromosomes and explain how favoured characteristics can be selectively bred.</p> <ul style="list-style-type: none"> -Explain how Polydactyly and Cystic Fibrosis are caused. -WS 1.2 Use the theory of evolution by natural selection in an explanation -WS 1.3, 1.4. Explain the benefits and risks of selective breeding given appropriate information and consider the related ethical issues. -Describe the evidence for evolution. -Use information given to show understanding of the Linnaean system. 						
Opportunities for Challenge	Consider and debate the ethical considerations of screening for genetic disorders.						
Assessment	End of Topic Test						

W/C	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	SUMMER
Area of study	Y10 Mock Exams		B6 – Inheritance, Variation and Evolution				
Core Learning			<p>Compare asexual and sexual reproduction, with relation to number of chromosomes and explain how favoured characteristics can be selectively bred.</p> <ul style="list-style-type: none"> -Explain how Polydactyly and Cystic Fibrosis are caused. -WS 1.2 Use the theory of evolution by natural selection in an explanation -WS 1.3, 1.4. Explain the benefits and risks of selective breeding given appropriate information and consider the related ethical issues. -Describe the evidence for evolution. -Use information given to show understanding of the Linnaean system. 				
Opportunity for Challenge			Consider and debate the ethical considerations of screening for genetic disorders.				

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Assessment		End of Topic Test	
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