



Lessons Sequence					
TOPIC (S) HOMEOSTASIS & RESPONSE	<ol style="list-style-type: none"> 1. What is homeostasis? 2. The human nervous system. 3. Reflex arc 4. Reaction times (req prac) 5. The brain 6. The eye 7. Control of body temperature 				
	<ol style="list-style-type: none"> 8. Human endocrine system 9. Control of blood glucose concentration 10. Maintaining water and nitrogen balance in the body. 11. Hormones in human reproduction 				
	<ol style="list-style-type: none"> 12. Contraception 13. Hormones to treat infertility (HT) 14. Negative feedback (HT) 15. Plant hormones (req prac) 16. Uses of plant hormones 				
Knowledge & Skills development	<ul style="list-style-type: none"> • Definition of homeostasis including blood glucose concentration, body temperature and water levels as examples. • Label the parts of the human nervous system putting them in order from the start of a nervous action. • Classify actions as conscious or reflex. • Design an experiment to test reaction times, include variables and graph plotting. • Label a reflex arc. • Give advantages of reflex actions. • Label the structures in the brain & detail functions of each. • Detail how neuroscientists have studied the brain over time. • Label the structures of the eye giving the function of each. Give details of accommodation and responses to light levels. • Give details of defects of the eye including myopia and hyperopia including how these are corrected. • Explain how body temperature is controlled using key words such as vasodilation, vasoconstriction, receptors. • Define the endocrine system. 				
	<ul style="list-style-type: none"> • Explain how blood glucose concentration is controlled when levels get too high or low. • Describe treatments and methods of control of diabetes. • Explain how water and nitrogen levels in the body are controlled. • Role of the kidney including the structures and functions. • Effect of ADH on permeability of kidney tubules. • Treatment of kidney failure. • List and give functions of the hormones involved in human reproduction. • Outline various methods of contraception and how they work. • HT – give details of hormones to treat infertility and explain how they work. • HT – outline negative feedback giving examples. • The use of plant hormones to coordinate and control growth and responses to light and gravity. Limited to Auxin, Gibberellins and Ethene. • Use of plant hormones in agriculture and horticulture limited to Auxin, Ethene and Gibberellins. 				
Assessment / Feedback Opportunities	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Targeted questioning throughout topic</td> <td style="width: 25%;">Teacher assessment of practical skills during investigation - verbal</td> <td style="width: 25%;">Knowledge recall quick quizzes</td> <td style="width: 25%;">Deep marking of written task in students books</td> </tr> </table>	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	Knowledge recall quick quizzes	Deep marking of written task in students books
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Cultural Capital	<ul style="list-style-type: none"> • The impact of Ramadan on homeostasis • Possible school nurse visit 				

<p>SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)</p>	<ul style="list-style-type: none"> • Healthy lifestyle • Infertility and IVF • Impact on family planning and use of contraception • Working in groups during practicals or research tasks
<p>Recommended reading</p>	<ul style="list-style-type: none"> • Following a method. • NHS leaflets/websites. • Recommended Read: Biology: Homeostasis of Body Temperature and Water Levels (Jonathan Clark)
<p>Key Vocabulary</p>	<p>Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest</p> <p>Homeostasis, Thermoregulatory centre, Negative feedback, 37°C, Vasodilation, Vasoconstriction, Capillaries, Endocrine system, Hormone, Pituitary Gland, Type 1 diabetes, Type 2 diabetes, Kidneys, Pancreas, Oestrogen, Ovulation, Testosterone, Menstrual Cycle, Follicle Stimulating Hormone (FSH), Luteinising Hormone (LH), Progesterone, Contraception, Central Nervous System (CNS), Receptor, Sensory neurone, Relay neurone, Motor neurone Retina , Optic nerve Sclera Cornea Iris Pupil Ciliary muscles, Suspensory ligaments, Accommodation, Focus, Refract Myopia, Hyperopia Lens, Spectacles, laser surgery, contact lens, Cerebral cortex, Cerebellum Medulla, Tropism, Gravitropic, Phototropic, Auxins, Weed killer, Ethene, Gibberellins, Tobacco-mosaic virus (TMV), Aphid, Deficiency disease, Chlorosis, Mimicry, Mineral ions, Herbivore</p>
<p>Digital Literacy</p>	<p>SharePoint resources including topic quizzes</p> <p>Possible use of excel to plot graphs and analyse data, powerpoint, word, etc to present information, internet for research</p>
<p>Cross-Curricular Links</p>	<p>PHSCE, PE, Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators</p>
<p>Careers</p>	<p>Nursing, medicine, paramedic, sexual health worker, hospital lab worker, optician, horticulture.</p>