

Review B5 Homeostasis and Control

<i>Can you...?</i>	😊	😐	😞
4.5.1 Homeostasis			
Define homeostasis			
Name three levels maintained by homeostasis			
State that automatic control systems may involve nervous responses or chemical responses			
Define receptors, coordination centres and effectors			
5.2 The human nervous system			
Explain how the structure of the nervous system is adapted to its functions			
State the main function of the nervous system			
Describe how information from receptors is carried to the brain to coordinate the response			
Describe the roles of sensory neurones, relay neurones, motor neurones, synapses and effectors in a reflex action, and state that reflex actions are automatic and rapid			
Identify the cerebral cortex, cerebellum is concerned and medulla on a diagram of the brain (Biology only)			
Describe the function of the cerebral cortex, cerebellum is concerned and medulla (Biology only)			
Describe how neuroscientists have been able to map the regions of the brain to particular functions. (biology only) (HT only)			
Relate the structures of the eye to their functions, including accommodation to focus on near or distant objects and adaptation to dim light. (biology only)			
Explain the function of the retina, the optic nerve, the sclera, the iris and the ciliary muscles (biology only)			
Describe myopia and hyperopia and how they are treated with spectacle lenses (biology only)			
Describe how new technologies and used to treat eye defects (biology only)			
Interpret ray diagrams demonstrating how spectacle lenses correct myopia and hyperopia. (biology only)			
Explain mechanisms to lower or raise body temperature in a given context. (HT only)			
5.3 Hormonal coordination in humans			
Define hormones and their rate of effect			
Describe the functions and main organs of the endocrine system			
Describe the function of the pituitary gland			
Identify the position of the pituitary gland, pancreas, thyroid, adrenal gland, ovaries and testes on a diagram of the human body			
Explain the role of the pancreas and insulin in the control of blood glucose concentration			
Compare Type 1 and Type 2 diabetes and explain how they can be treated			

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Recall that If the blood glucose concentration is too low, the pancreas produces glucagon that causes glycogen to be converted into glucose and released into the blood. (HT only)			
Explain how glucagon interacts with insulin to control blood glucose (sugar) levels in the body (HT only)			
Explain how the body maintains water and nitrogen balance in the body			
Recall that excess water, ions and urea are removed via the kidneys in the urine.			
Explain the role of the liver in deaminated to form ammonia and that ammonia is toxic and so it is immediately converted to urea for safe excretion. (HT only)			
The kidneys produce urine by filtration of the blood and selective reabsorption of useful substances such as glucose, some ions and water			
Describe the role of ADH in controlling the water level in the body (HT only)			
Know how people who suffer from kidney failure may be treated.			
State that during puberty reproductive hormones cause secondary sex characteristics to develop.			
State that testosterone is the main male reproductive hormone produced by the testes and it stimulates sperm production.			
Explain the interactions of hormones in the control of the menstrual cycle. (HT only)			
Evaluate the different hormonal and non-hormonal methods of contraception.			
Explain the use of hormones to treat infertility (HT only)			
State some problems with fertility treatment			
Explain negative feedback (HT only)			
State two hormones that are controlled by negative feedback and their function (HT only)			
4.5.4 Plant hormones (biology only)			
Explain how plants use hormones to coordinate and control growth in response to light and gravity (Biology only)			
Describe the role of gibberellins and ethane in plants (Biology only)(HT only)			
Describe some uses of plant hormones in agriculture and horticulture (Biology only)(HT only)			