

Biology Autumn Term		Curriculum Checkpoints: What do students know and what can they do?				YT Clips	Further guidance
Year 10							
Summative Comment		Developing	Securing	Mastering	Excelling		
Infection and Response	Substantive Knowledge	To be able to define the term 'pathogen' and name some examples. To describe simply how the body protects itself from pathogens and recall why vaccinations are used. To state the difference between an antiseptic, antibiotic and painkiller SS ONLY To recall some plant diseases and plant defences.	To be able to describe the transmission, symptoms and control of different pathogens that cause infectious disease. To describe a specific immune response. To be able to distinguish between antigens and antibodies, and describe what vaccines contain SS ONLY To be able to explain some plant defences.	To be able to explain the roles of the immune system in terms of phagocytosis, antibodies and antigens. Explain how vaccinations trigger an immune response and how herd immunity works. To explain how antibiotics and painkillers treat disease and symptoms. SS ONLY To explain how monoclonal antibodies are developed and some of their applications. Explain how we detect and treat plant diseases	To be able to link knowledge from other areas of the course (e.g. cell structure) to the implications of disease. To be able to recommend measures to limit spread of antibiotic resistance. SS ONLY Explain the use of monoclonal antibodies in locating and treating cancer, testing for pregnancy and evaluate their use.	https://www.youtube.com/watch?v=m7pxdT9NPI&pp=yvUnaW5mZWNaW9ulGFuzCBvZXNwb25zZS8hcWEpZ2NzZSBlaw9sb2d5	https://www.physicsandmathstutor.com/biology-revision/gcse-aga/infection-and-response/
Infection and Response	Disciplinary Knowledge	To be able to describe trends simply from data and graphs to show disease incidence over time. To know what is meant by 'peer-review'	To be able to describe and explain disease trends over time, linking understanding to simple graphs, charts and tables of data. Describe the process of drug development, including the role of placebos and blind/ double blind trials. SS ONLY To describe the everyday application of scientific knowledge to detect and identify plant disease	To be able to explain that the results of testing and trials are published only after scrutiny by peer review. Explain the importance of the stages in drug trials. Explain trends in antibiotic resistance SS ONLY To appreciate the power of monoclonal antibodies and consider any ethical issues.	To evaluate graphical data and evidence about lifestyle, risk factors and increased rates of disease. To evaluate the global use of vaccination programmes. SS ONLY To evaluate the advantages and disadvantages of monoclonal antibodies and appreciate how the understanding of ion deficiencies allows horticulturists to provide optimum conditions for plants.	https://www.youtube.com/watch?v=8kblU2mAMP8_from+Topic+1+Biology+-+but+links+very+nicely+here	https://www.physicsandmathstutor.com/pdf-pages/7pdf=https%3A%2F%2Fpmt.physicsandmathstutor.com%2Fdownload%2Fbiology%2FGCSE%2FRP%252002%2520-%2520Microbiology.pdf
Biology		Curriculum Checkpoints: What do students know and what can they do?				YT Clips	Further guidance
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Homeostasis and Response - Nervous System	Substantive Knowledge	To be able to define homeostasis and give a few examples. To describe the basic components of the nervous system. To state simply how normal and reflex responses work. SS ONLY To be able to describe the function of the brain regions. To identify the structure and function of parts of the eye. State things that happen when the body is too hot or too cold	To be able to describe the structure of the nervous system and how neurones are adapted to their role. To describe the transmission of an impulse in reflex arcs and what a synapse is SS ONLY To be able to describe how images are focused on the retina, and how different types of lenses work, describe vasoconstriction and vasodilation	To be able to explain how nerve impulses are transmitted across synapses, and to compare and contrast reflexes and 'normal' responses to stimuli. To explain how a normal response is coordinated. SS ONLY To be able to explain accommodation in the eye and how lenses correct vision. Explain how neuroscientists investigate and map the brain. To explain mechanisms that raise and lower body temperature.	To be able to apply understanding of the nervous systems to different contexts. Justify the importance of myelin in neurone structure. To compare and contrast endocrine and nervous systems. SS ONLY Explain how thermoregulation is an example of negative feedback, linking processes to energy transfer. Explain the advantages and disadvantages of different types of brain scans and suggest advantages for corrective vision technologies	https://www.youtube.com/watch?v=xOfqw7MbU8k&pp=yvUocHJpbXlvc2Uga2l0dGVulGhvbWVvc3Rhc2lzlGFuZCBvZXNwb25zZQ%3D%3D	https://www.physicsandmathstutor.com/biology-revision/gcse-aga/homeostasis-and-response/
Homeostasis and Response - Nervous System	Disciplinary Knowledge	To be able to follow a method to determine whether caffeine affects your reaction time. To make observations and present results simply in tables or graphs. To calculate a mean and know what an 'anomalie' is	To form simple conclusions from experimental results. To describe the independent, dependent and control variables in an investigation. To be able to extract and interpret data from graphs, charts and tables, about the functioning of the nervous system	To be able to interpret observations and other data, including identifying patterns and trends, making inferences and drawing conclusions. Identify strengths and weaknesses in an investigation. To use models to explain how nerve impulses are transmitted across synapses. SS ONLY Interpret ray diagrams for the eye	Critically evaluate data in terms of accuracy, precision, repeatability and reproducibility and identify potential sources of error. Carry out and represent mathematical and statistical analysis to measure reaction time. SS ONLY To demonstrate how lenses correct vision using ray diagrams. To Evaluate the benefits and risks of procedures carried out on the brain and nervous system	https://www.youtube.com/watch?v=Ws5qVXYHRnQ	https://pmt.physicsandmathstutor.com/download/Biology/GCSE/Notes/AQA/Practical-Skills/RP%2007%20-%20Reaction%20time.pdf