**UNIT OVERVIEW:** Communication and Homeostasis

1. **ENQUIRY:** Why is it important to maintain constant conditions in the body?

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| **Unit intention:** ***What and Why*?** It is important that organisms, both plants and animals are able to respond to stimuli. This is achieved by communication within the body, which may be chemical and/or electrical. Both systems are covered in detail in this module. Communication is also fundamental to homeostasis with control of temperature, blood sugar and blood water potential being studied as examples. Students will have studied Homeostasis and the Nervous systems at GCSE but this will be the first time that they will study this in a synoptic way. | | | |
| **Success criteria: I can** | | 🗸 | X |
| Describe the structure and functions of the adrenal glands and explain endocrine communication by hormones.  Explain how blood glucose concentration is regulated  Explain the differences between Type 1 and Type 2 diabetes mellitus and  Describe the potential treatments for diabetes mellitus.  I can explain how heart rate is controlled  Explain the principles of homeostasis  Explain the physiological and behavioural responses involved in temperature control in ectotherms and endotherms.  Describe and explain the structure and functions of the mammalian liver.  Describe and explain the structure, mechanisms of action and functions of the mammalian kidney.  Describe the term excretion, and its importance in maintaining metabolism and homeostasis.  Evaluate the use how excretory products can be used in medical diagnosis. | |  |  |
| **Unit summative and formative assessment details:**  Weekly Seneca, factual re-call  MCQ  Extended writing  Practical Research  End of unit test | | | |
| **Home Learning (What and how often):**  **Home Learning (What and how often):**  Homework once a week (flip learning and Seneca)  Revisit class content (make notes)  Research activities for practical  <http://www.abcam.com/pathways/scientific-pathway-poster-library>  <https://www.bbc.co.uk/news/science-environment-13616778>  <https://liverfoundation.org/for-patients/about-the-liver/diseases-> | | | |
| **Topic Sequence**  The Hormonal system  Control of blood glucose  Control of heart  Principles of homeostasis  Control of body temperature  Structure and function of liver  Structure of Kidney and osmoregulation  Urine and diagnosis |  | | |

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| **Success criteria** – Have you met them? Show your evidence in the boxes below. |
| **1.** |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
| **How will you improve your work?** |

**End of Unit EVALUATION**