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|  | **Half term points** |
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| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| **Cells and Organisation****Mini assessment:** Investigating osmosis – practical write up  | **Disease and Bioenergetics****Mini assessment:** Create a fact file on one of the following:  HIV/AIDS, Gonorrhoea, Rose Black spot or Malaria and LBQ | **Biological Responses****Mini assessment:** Write a latter as a doctor to a patient who has diabetes, explaining the condition and treatment and LBQ |
| **Key skills and knowledge assessed:** * Explain how substances are transported by osmosis.
* Explain the effects of osmosis on cells and tissues.
* Recognise, draw and interpret diagrams that model osmosis.
* Use models in explanations, or match features of a model to the data from experiments of observations that the model describes or explains.
* Make predictions or calculate quantities based on the model or show its limitations.
 | **Key skills and knowledge assessed:** * Describe a disease caused by a fungus.
* Describe a disease caused by a protist.
* Describe a disease caused by a virus.
* Describe and explain specified examples of the technological applications of science.
* Give examples to show that there are hazards associated with science-based technologies which must be considered alongside the benefits.
* Explain the interactions of temperature, light intensity and carbon dioxide concentration in limiting the rate of photosynthesis
* Explain how the rate of photosynthesis is directly proportional to light intensity and inversely proportional to the distance from a light source, including the use of the inverse square law calculation
* Solve simple algebraic equations
* Use data to relate limiting factors to cost effectiveness of adding heat, light or carbon dioxide to greenhouses.
 | **Key skills and knowledge assessed:** * Blood glucose concentration is monitored and controlled by the pancreas.
* If the blood glucose concentration is too high, the pancreas produces the hormone insulin that causes glucose to move from the blood into the cells.
* In liver and muscle cells excess glucose is converted to glycogen for storage
* Evaluate information around the relationship between obesity and diabetes and make recommendations considering social and ethical issues.
* Some disorders are inherited. These disorders are caused by the inheritance of certain alleles.
* Polydactyly (having extra fingers or toes) is caused by a dominant allele.
* Cystic fibrosis (a disorder of cell membranes) is caused by a recessive allele.
* Appreciate that embryo screening and gene therapy may alleviate suffering but consider the ethical issues which arise.
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| **Meaningful homeworks:** Research 3 real life applications of where osmosis happens and explain in terms of concentration gradients how osmosis occurs. Following this, complete the GCSE Pod and application exam style questions.  | **Meaningful homeworks:** Research the causes of HIV/AIDs, gonorrhoea, rose black spot and malaria. Following this complete the GCSE Pod and application exam style questions  | **Meaningful homeworks:** Research the different types of diabetes, their causes, symptoms, and treatments. Produce Punnett squares to show the inheritance of CF if both parents are carriers of the gene. Explain your answer with the terms homozygous, heterozygous, dominant, and recessive. Following this complete the GCSE Pod and application exam style questions |