Bishop Heber High School

Subject	Year	Term
Biology	12	2

Topic

Module 3- Exchange and transport; Module 4 – Biodiversity, Evolution and Disease

Content (Intent)

Prior Learning (Topic) Module 2 Foundations in Biology;

Module 2- Enzymes how enzymes work (induced fit) and their role in intracellular and extracellular reactions. Factors that affect their action, including inhibitors and co-factors and Q10.
Module 3 – Exchange and transport
The details of how exchange surfaces and transport systems of animals and plants are adapted to their function, to include the detailed histology of the systems.
Module 4 – Communicable disease. Pathogens, immune response, vaccinations, plant defense against disease.

Future Learning (Topic) Module 4 Biodiversity, Evolution and Disease; Unit 5- Communication, homeostasis and energy (photosynthesis)

What Knowledge and Skills will be taught (Implementation)		
Module 3 - Exchange in animals Specialised exchange surfaces, lungs, vital capacity, tidal volume and breathing rate. Fish and insect exchange surfaces, SA:V ratio, histology of exchange surfaces. **Module 3 - Transport in plants –** plant structure, stem structure, movement of water through a plant. Transpiration and translocation, xerophytic adaptations. **Required practical –** Dissection of lung, fish gills, insect spiracles. **Required practical** – Exchange surfaces histology. **Required practical –** Observation of stem cross section.		End of topic test – A level grading and formative feedback given. Spring term assessment – A level grading and formative feedback given. Homework – a mark, A level grade and formative feedback provided.
Module 3 - Organisms exchange substances with their environment Heart structure and function, cardiac cycle and heart disorders, interpretation of ECG traces. **Transport in plants –** Xerophytic adaptations and translocation. **Required Practical –** Use of the potometer. **Module 4 – Communicable disease** Pathogens, Transmission and infectivity, plant defences.		End of topic tests – A level grading and formative feedback given. Term 2 summative assessment – A level grading and formative feedback given. Homework – a mark, A level grade and formative feedback given.

How can parents help at home?

Ensure all class notes are complete and homework submitted on time
Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.
Encourage pupils to actively research future University courses and careers.

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading
OCR revision guides
OCR CGP Text book
Essential Maths Skills for AS/A level Biology CGP
Resources on Teams
Websites
https://www.ocr.org.uk/qualifications/as-and-a-level/biology-a-h020-h420-from-2015/specification-at-a-glance/
Mrs Millers Blog

Vocabulary Lists
Haemoglobin
Oxyhaemoglobin
Cardiac Cycle
Tachycardia
Brachycardia
Gills
Lamellae
Alveoli
Tracheoles
Xerophytes
ECG
Biodiversity
Species richness
Species evenness
Pathogen
Phagocytes
Lysosomes
Cytokines