|  |  |  |
| --- | --- | --- |
| **What will we be learning?**  **Year 12 Exchange Surfaces and Breathing** | **Why this? Why now?**  Previous Learning  Future Learning  Enquiry Processes  Analyse Patterns, Draw conclusions, Present data, Justify opinions, Collect data, Present data, Plan variables | **Key Words:**  **Alveoli (alveolus)**  **Breathing**  **Bronchi (bronchus)**  **Bronchioles**  **Countercurrent system**  **Diaphragm**  **Epithelium**  **Exhalation**  **Exoskeleton**  **Filaments**  **Inhalation**  **Intercostal muscles**  **Lamella**  **Lungs**  **Pulmonary ventilation**  **Spiracle**  **Tidal volume**  **Trachea**  **Tracheae**  **Tracheoles**  **Ventilation rate** |
| **What will we learn?**   * About the need for specialised exchange surfaces * The features of an efficient exchange surface * The structures and functions of the components of the mammalian gaseous exchange system * The mechanism of ventilation in mammals * The relationship between vital capacity, tidal volume, breathing rate and oxygen uptake * The mechanisms of ventilation and gas exchange in bony fish and insects * How to dissect, examine and draw the gaseous exchange system of a bony fish and/or insect trachea * How to examine microscope slides to show the histology of exchange surfaces   **Misconceptions in this topic** | |
| **What opportunities are there for wider study?**  Careers  Sports Science Occupational Therapy Nursing Medicine Marine Biology Laboratory Work Teaching Radiography Physiotherapy Biotechnology Veterinary Work Paramedical Science Zoology  STE(A)M  https://highcliffe.sharepoint.com/sites/LearnSTEM | |
| **How will I be assessed?**  End of topic assessment | |