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| **What will we be learning?****Year 12 Exchange Surfaces and Breathing** | **Why this? Why now?**Previous Learning Future Learning Enquiry ProcessesAnalyse 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?**CareersSports Science Occupational Therapy Nursing Medicine Marine Biology Laboratory Work Teaching Radiography Physiotherapy Biotechnology Veterinary Work Paramedical Science ZoologySTE(A)M https://highcliffe.sharepoint.com/sites/LearnSTEM |
| **How will I be assessed?**End of topic assessment  |