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| **What will we be learning?****Breathing** | **Why this? Why now?**Previous Learning The impact of exercise and lifestyle on the way the body functions (KS2); MovementFuture Learning Respiration Topic.GCSE – **Organisation**: Animal tissues, organs and organ systems; non- communicable diseases; human defence systems; **Bioenergetics**: Respiration. Enquiry ProcessesAnalyse patterns, draw conclusions, present data, collect data, communicate ideas, critique claims, examine consequences. | **Key Words:**BreathingTrachea (windpipe)BronchiBronchiolesAlveoliRibsDiaphragmLung volumeVentilationGas ExchangePressureAsthmaSmoking(Respiration) |
| **What will we learn?*** Breathing occurs through the action of muscles in the ribcage and diaphragm.
* How the parts of the gas exchange system are adapted to their function.
* How changes in volume and pressure inside the chest move gases in and out of the lungs
* In gas exchange, oxygen and carbon dioxide move between alveoli and the blood.
* Oxygen is transported to cells for aerobic respiration and carbon dioxide, a waste product of respiration, is removed from the body.
* The amount of oxygen required by body cells determines the rate of breathing.
* Explain observations about changes to breathing rate and volume, including how to carry out simple measurements of lung volume.
* How exercise, smoking and asthma affect the gas exchange system.

**Misconceptions in this topic*** Respiration is not breathing - ventilation is breathing, respiration is a chemical rection inside the mitochondria of cells.
* The trachea leads to the lungs, the oesophagus leads to the stomach.
* Bronchus = singular; Bronchi = pleural.
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| **What opportunities are there for wider study?**CareersDoctor Nurse Physiotherapist Sports Scientist Personal TrainerSTE(A)M https://highcliffe.sharepoint.com/sites/LearnSTEM |
| **How will I be assessed?**End of topic assessment |