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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); Movement  Future Learning  Respiration Topic.  GCSE – **Organisation**: Animal tissues, organs and organ systems; non- communicable diseases; human defence systems; **Bioenergetics**: Respiration.  Enquiry Processes  Analyse patterns, draw conclusions, present data, collect data, communicate ideas, critique claims, examine consequences. | **Key Words:**  Breathing  Trachea (windpipe)  Bronchi  Bronchioles  Alveoli  Ribs  Diaphragm  Lung volume  Ventilation  Gas Exchange  Pressure  Asthma  Smoking  (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. | |
| **What opportunities are there for wider study?**  Careers  Doctor Nurse Physiotherapist Sports Scientist Personal Trainer  STE(A)M  https://highcliffe.sharepoint.com/sites/LearnSTEM | |
| **How will I be assessed?**  End of topic assessment | |