



Learning Journey – 8G Gas exchange

What have I done previously in my learning journey?							
Previously....	You will have been taught to recognise the impact of exercise, drugs and lifestyle on the way their bodies function and explored the relationship between diet, exercise, drugs, lifestyle and health.						
In this topic...	You will learn about <ul style="list-style-type: none"> • the structure and functions of the gas exchange system in humans, including adaptations to function • the mechanism of breathing to move air in and out of the lungs, using a pressure model to explain the movement of gases, including simple measurements of lung volume • the impact smoking on the human gas exchange system 						
We will develop our learning by studying the following each lesson:						RAG	Skills in Science checklist
8G.01 The structure of the breathing system <ul style="list-style-type: none"> • Label a diagram of the breathing system. • Describe the movements of the ribs and diaphragm during breathing in and out. • Describe how changes in pressure in the chest bring about breathing in and out. 							Scientific Methods Practical Number Skills Application Communication
8G.02 A model of the breathing system <ul style="list-style-type: none"> • Create a model of the breathing system. • Identify the parts of the breathing system represented in the model. • Evaluate the model of the breathing system that you have created. 							Scientific Methods Practical Number Skills Application Communication
8G.03 Lung volume <ul style="list-style-type: none"> • Define lung volume. • Describe a method to measure lung volume. • Present, analyse and communicate data scientifically. 							Scientific Methods Practical Number Skills Application Communication
8G.04 Gas exchange <ul style="list-style-type: none"> • Describe the process of gas exchange. • Explain how the parts of the gas exchange system are adapted to their function. • Predict how a change in the gas exchange system could affect other processes in the body. 							Scientific Methods Practical Number Skills Application Communication
8G.05 Smoking <ul style="list-style-type: none"> • List some effects of smoking on health and life processes. • Describe some effects of smoking on health and life processes. • Explain some effects of smoking on health and life processes. 							Scientific Methods Practical Number Skills Application Communication
Key Vocabulary							
Alveoli	Bronchi	Bronchioles	Breathing	Diaphragm	Lung volume	ribs	Trachea (windpipe)
Ribs	Trachea	Independent	Conclusion	Dependent	Evaluation	Equation	Variables
Model	Control	Capillaries	Carbon dioxide	oxygen	Respiration	Addictive	Bronchitis
Tar	Nicotine	Emphysema	Carbon monoxide				



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Future Learning	In Key stage 4 you will study how the importance of cellular respiration, the processes of aerobic and anaerobic respiration. You will learn about the link between the respiratory system, the circulatory system and respiration
In careers	Examples of careers that involve a knowledge of the respiratory system include: <ul style="list-style-type: none">• Respiratory therapists are key members of an interprofessional team that addresses chronic respiratory diseases like asthma and emphysema.• A polysomnographic technologist is a healthcare professional who specializes in sleep medicine. They use diagnostic equipment to evaluate patients with sleep disorders.• Respiratory therapists specializing in emergency respiratory therapy work in hospitals. Their positions are based in emergency rooms where they help people recover from serious conditions such as pneumonia, heart surgery, and lung failure.• Pulmonologist. Doctors specially trained to treat diseases and conditions of the chest ; respiratory therapist. work with patients who have breathing issues.