



Lessons Sequence							
<b>TOPIC :</b> <b>Gas Exchange</b> <b>Photosynthesis and</b> <b>Respiration</b>	<ol style="list-style-type: none"> <li>1. The Lungs</li> <li>2. Measuring lung volume</li> <li>3. Breathing in and out</li> <li>4. Impact of asthma</li> <li>5. Impact of smoking</li> <li>6. Aerobic respiration</li> <li>7. Anaerobic respiration</li> </ol>						
	<ol style="list-style-type: none"> <li>8. Effect on the body of exercise</li> <li>9. Mid Topic Test</li> <li>10. Photosynthesis</li> <li>11. Adaptations of a leaf</li> <li>12. The role of stomata</li> </ol>						
	<ol style="list-style-type: none"> <li>13. Testing a leaf for starch</li> <li>14. Plant minerals and fertiliser</li> <li>15. End of topic test</li> </ol>						
<b>Knowledge &amp; Skills</b> <b>development</b>	<ul style="list-style-type: none"> <li>• Equation for aerobic respiration. When do we aerobically respire.</li> <li>• Equation for anaerobic respiration including fermentation and the uses.</li> <li>• Effect of exercise on the circulatory and respiratory system.</li> <li>• Photosynthesis equation.</li> <li>• Practical skills; measuring volume, timing, use of water bath, safety precautions.</li> <li>• Label the structure of a leaf.</li> <li>• Ways a leaf is adapted for photosynthesis.</li> <li>• Describe and explain what stomata are.</li> <li>•</li> </ul>						
	<ul style="list-style-type: none"> <li>• Practical skills; measuring volume and mass, safely using a Bunsen burner.</li> <li>• Practical skills; using a microscope, preparing a microscope slide.</li> <li>• Maths skills; calculating averages and calculating number of stomata per square mm.</li> <li>• Causes, symptoms and treatment of asthma.</li> <li>• Impact of smoking short term and long term on health.</li> <li>• Identify what minerals plants need to grow and why a fertiliser may be used.</li> </ul>						
<b>Assessment /</b> <b>Feedback</b> <b>Opportunities</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Targeted questioning throughout topic</td> <td style="text-align: center;">Teacher assessment of practical skills during investigation - verbal</td> <td style="text-align: center;">AWOL assessment – formative teacher assessment in students books</td> <td style="text-align: center;">Mid topic assessment – formative assessment</td> <td style="text-align: center;">Homework topic quiz – formative assessment</td> <td style="text-align: center;">End of topic assessment – teacher summative assessment</td> </tr> </table>	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
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<b>Cultural Capital</b>	<ul style="list-style-type: none"> <li>• Possible visit by school nurse/midwife/smoking cessation worker</li> </ul>						
<b>SMSC / Promoting</b> <b>British Values</b> <small>(Democracy, Liberty, Rule of Law, Tolerance &amp; Respect)</small>	<ul style="list-style-type: none"> <li>• Effect of lifestyle choices on health.</li> <li>• Should the government ban smoking? Effect of taxes.</li> <li>• Where locally to go to access support</li> <li>• Working in groups during practicals or research tasks</li> </ul>						
<b>Reading opportunities</b>	<ul style="list-style-type: none"> <li>• Following a method</li> <li>• NHS leaflets/websites</li> <li>• News articles on health</li> <li>• Recommended Read: Fit and Healthy (Ooka Books)</li> </ul>						

<b>Key Vocabulary</b>	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly  Respiration, Aerobic, Anaerobic, Carbon Dioxide, Glucose, Exercise, Breathing, Fermentation, Microorganisms, Nutrient, Minerals, Respiratory, Inhalation, Asthma, Tobacco, Recreational, Medicinal
<b>Digital Literacy</b>	SharePoint resources including topic quiz Possible use of excel to plot graphs and analyse data, powerpoint, word, etc to present information, internet for research
<b>Cross-Curricular Links</b>	PHSCE, Physical Education, `Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators
<b>Careers</b>	Nursing, midwifery, medicine, nutritionist, support worker, poliitics