

## Science work – Year 12 – A-level– Full website version.

The tasks to work through each week from your kerboodle test book.

### Teacher 1 work: Mr Lomas / Mr Burley

Week	Topic	Kerboodle pages	Kerboodle test	Additional resources
15/6/20		<b>Y2 55-58</b>		
		<p><b>Lesson 1 Instructions:</b> 14.3 Re-cap – Write the definitions of the following (potentially confusing) words...glucose, glucagon, gluconeogenesis, glycogen, glycogenolysis, glucoregulation, glycogenesis. Answer summary questions 3 and 4 from page 54.</p> <p><b>Lesson 2 Instructions:</b> Write down the differences between Type 1 and type 2 diabetes mellitus, in terms of cause, symptoms, onset age and potential treatments. Read and answer the questions in the purple box at the top of page 56. Describe how insulin is produced using bacteria (You will have covered this at GCSE and will do it again in ch21 page 228). Look at Fig3 on pg57 and describe the difference in glucose levels for a type 1 diabetic and a non-diabetic person.</p> <p><b>Lesson 3 Instructions:</b> Make notes on the potential uses of stem cells in treating diabetes. Answer summary questions on pg58. Answer practice questions 1 and 2 and 3 on pg66/67.</p>		Please now log onto show my homework for updates resources
22/6/20		<b>Y2 58-62</b>		
		<p><b>Lesson 1 Instructions:</b> Study and make notes on 'fight or flight' response. Copy Fig1 and add more detail where possible. Draw and annotate Fig2 (pg60)</p> <p><b>Lesson 2 Instructions:</b> Answer summary questions (pg 61) Answer practice question 4 – pg67</p> <p><b>Lesson 3 Instructions:</b> Follow the 3 synoptic links on pg 62. Describe the role of chemoreceptors and baroreceptors in controlling heart rate.</p>		
29/6/20		<b>Y2 64-65</b>		
		<p><b>Lesson 1 Instructions:</b> Do the activity on pg 64 (green box) Answer the summary questions (pg 65)</p> <p><b>Lesson 2 Instructions:</b> Practice questions for chapter 13 (pg 42-43). Revise any sections you struggle with.</p> <p><b>Lesson 3 Instructions:</b> Practice questions for ch17 (pg 140). Revise any sections you struggle with.</p>		
6/7/20		<b>Y2 158</b> <b>Y1 325, 146</b>		
		<p><b>Lesson 1 Instructions:</b> Practice questions for ch 18 (pg 158). Revise any sections you struggle with.</p> <p><b>Lesson 2 Instructions:</b> Practice questions for ch 12 (AS book pg 325). Revise any sections you struggle with.</p> <p><b>Lesson 3 Instructions:</b> Practice questions for ch 6 (AS book pg 146). Revise any sections you struggle with.</p>		
13/7/20		<b>Y1 168, 38, 82</b>		

	<p><b>Lesson 1 Instructions:</b> Practice questions for ch 7 (AS book pg 168). Revise any sections you struggle with.</p> <p><b>Lesson 2 Instructions:</b> Practice questions for ch 2 (AS book pg 38). Revise any sections you struggle with.</p> <p><b>Lesson 3 Instructions:</b> Practice questions for ch 3 (AS book pg 82). Revise any sections you struggle with.</p>
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## Teacher 2 work: Mr Lomas / Mr Ihsan / Mr Carter and Mrs Thomson

Week	Topic	Kerboodle pages	Kerboodle test	Additional resources
15/6/20	<b>18.4 Oxidative Phosphorylation</b>	<b>148-149</b>		<p><b>Video 1 ETC (~11 mins):</b>  <a href="https://www.youtube.com/watch?v=jU2lnPwTXP0">https://www.youtube.com/watch?v=jU2lnPwTXP0</a></p> <p><b>Video 2 ETC (~7 mins):</b>  <a href="https://www.youtube.com/watch?v=LQmTKxl4Wn4">https://www.youtube.com/watch?v=LQmTKxl4Wn4</a></p>
			<p><b>Lesson 1 Instructions:</b> Watch both videos and read through the information in the textbook.</p> <p><b>Lesson 2 Instructions:</b> Write a paragraph to explain:</p> <ol style="list-style-type: none"> <li>What would happen if there WASN'T a H<sup>+</sup> concentration gradient?</li> <li>How does cyanide stop respiration?</li> <li>Compare Oxidative to substrate phosphorylation.</li> </ol>	
22/6/20	<b>18.5 Anaerobic Respiration</b>	<b>150 - 151 &amp; 153</b>		<p><b>Video 1 (~7 mins)- Anaerobic respiration</b>  <a href="https://www.youtube.com/watch?v=lraQjXzlobg">https://www.youtube.com/watch?v=lraQjXzlobg</a></p> <p><b>Video 2 (~2 mins) – Sperm whale adaptations</b>  <a href="https://www.youtube.com/watch?v=bRVPrLLHDX0">https://www.youtube.com/watch?v=bRVPrLLHDX0</a></p>
			<p><b>Lesson 1 Instructions:</b> Watch the videos and read the relevant textbook pages. Complete a table of similarities and differences between lactate fermentation (animals) and alcoholic fermentation (yeast &amp; plants)</p> <p><b>Lesson 2 Instructions:</b> Draw and label a diagram of a sperm whale detailing its adaptations for long dives.</p>	
29/6/20	<b>18.6 Respiratory Substrates</b>	<b>155-156</b>		<p><b>Video 1 Fat metabolism (~6 mins)-</b>  <a href="https://www.youtube.com/watch?v=acA5iF1zrDI">https://www.youtube.com/watch?v=acA5iF1zrDI</a></p> <p><b>Video 2 Amino acid metabolism (~13 mins)</b>  <a href="https://www.youtube.com/watch?v=l0V-Xmps1mE">https://www.youtube.com/watch?v=l0V-Xmps1mE</a></p> <p><b>Video 3 DKA (~4 mins)-</b>  <a href="https://www.youtube.com/watch?v=NwBzGfKYgE">https://www.youtube.com/watch?v=NwBzGfKYgE</a></p>
			<p><b>Lesson 1 Instructions:</b> Draw a diagram showing aerobic respiration when proteins or fats are substrates (Glycolysis, Link reaction, Krebs cycle &amp; Electron transport chain). Use the textbook and videos to assist you.</p> <p><b>Lesson 2 Instructions:</b> Skim read these two published scientific articles.  <a href="https://www.nature.com/articles/ejcn2013116/">https://www.nature.com/articles/ejcn2013116/</a> and  <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2129159/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2129159/</a> Do you trust one article more than the other, explain why in a paragraph.  Briefly summarise the effects of a low carbohydrate diet (~5 bullet points)</p>	

6/7/20	<b>Experiments and Practical's</b>	<b>152, 156 &amp; 157</b>		<b>Video 1 Anaerobic Yeast (~8 mins) -</b> <a href="https://www.youtube.com/watch?v=h3dQ_H0ueN4">https://www.youtube.com/watch?v=h3dQ_H0ueN4</a> <b>Video 2 RQ and respirometers (~5 mins)</b> <a href="https://www.youtube.com/watch?v=yfv13Q_67ZQ">https://www.youtube.com/watch?v=yfv13Q_67ZQ</a>
<p><b>Lesson 1 Instructions:</b> Write a protocol to perform Anaerobic investigation of yeast at three different temperatures. Clearly identify independent, dependent and control variables and include an equipment list, method &amp; results table (ready to collate data)</p> <p><b>Lesson 2 Instructions:</b> Write a protocol to compare the respiratory rate of peas and mung beans. Clearly identify independent, dependent and control variables and include an equipment list, method &amp; results table (ready to collate data)</p>				
13/7/20	<b>Creative revision tool</b>	<b>142-157</b>		<b>Interactive notes templates -</b> <a href="https://thecandyclass.com/2015/07/the-interactive-notebook-template-types/">https://thecandyclass.com/2015/07/the-interactive-notebook-template-types/</a> <b>Slotted revision Wheel template -</b> <a href="https://www.trythisteaching.com/2013/05/literacy-wheel/">https://www.trythisteaching.com/2013/05/literacy-wheel/</a>
<p><b>Lesson 1 Instructions:</b> Review the respiration chapter. Reflect on your learning – which topics are the most difficult? Complete these textbook questions.</p> <p><b>Lesson 2 Instructions:</b> Create a revision tool for this topic. I would recommend flip books or a slotted wheel (especially for Krebs Cycle) so you can test yourself. Kind of like flashcards - questions are on the outside &amp; underneath are the answers. I would not recommend mind maps, concept maps or glossaries - they are unlikely to be useful to revise respiration as it is a process.</p>				