

Subject	Year	Term
Biology	13	2
<b>Topic</b>		
Sensing & Responding to Change - Internal		
<b>Content (Intent)</b>		
<b>Prior Learning (Topic)</b> Year 11 topic B5 Homeostasis and Response, Y12 topics Biological Molecules, Transport Across Membranes and Proteins, Enzymes and Digestion		
<p>The principles of homeostasis, including the concept of negative feedback and understanding the importance of maintaining an internal environment that provides optimal conditions.</p> <p>The mechanism of control of blood glucose concentration, including the action of insulin and glucagon.</p> <p>Diabetes and its causes, symptoms and treatment.</p> <p>The action of adrenaline as an illustration of the second messenger system.</p> <p>The structure of the kidney.</p> <p>The structure and function of a nephron.</p> <p>The mechanism of control of blood water potential.</p>		
<b>Future Learning (Topic)</b> Further study at university/degree level		
<b>How will knowledge and skills be taught? (Implementation)</b>	<b>How will your understanding be assessed &amp; recorded (Impact)</b>	
<p>Demos</p> <p>Kidney dissection</p> <p>Practical work</p> <p>Required practical 11: Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in an unknown 'urine' sample.</p> <p>Written</p> <p>Class notes</p> <p>Past papers questions in class</p> <p>Past paper questions in homeworks</p>	<p>- 5 x standard homeworks (Grade given. Written feedback. Response expected.)</p> <p>-1 x end of topic test (Grade given. Verbal feedback to class and individuals.)</p>	
<b>How can parents help at home?</b>		
<p>Look at the topic specific resources on the VLE</p> <p>Use appropriate youtube channels: Miss Estruch AQA A level Biology</p>		

Use Seneca and Physics and Maths Tutor websites for content and retrieval practice  
 Encourage students to use the text book provided by school  
 Take an interest! Ask your children what they have learnt and be curious about their learning.

### Helpful further reading/discussion

#### Reading

New Scientist  
 Biological Science Review  
 Magazine (available on the  
 VLE)  
 The Biologist Magazine  
 Royal Society of Biology  
 Royal Society of Biology blog

#### Vocabulary Lists

*Homeostasis, negative  
 feedback, insulin, glucagon,  
 diabetes, water potential,  
 glycogenesis,  
 gluconeogenesis,  
 glycogenolysis,  
 hypothalamus, posterior  
 pituitary, nephron,  
 glomerulus, proximal and  
 distal convoluted tubule,  
 collecting duct, Loop of  
 Henle, antidiuretic hormone,  
 reabsorption,  
 osmoregulation*

#### Careers Links

Biochemistry  
 Biomedical science  
 Biological sciences  
 Medicine  
 Veterinary medicine  
 Bioveterinary science  
 Nursing  
 Midwifery  
 Healthcare science  
 Zoology  
 Radiology