



## Year 9 Biology – Spring Term - Knowledge Overview

Year group:		Unit: Organisation		Resources	
Week beginning:	Big question / concept:	Learning intentions:	Resources		
			Offline:	Online including links on how to access these:	
4 <sup>th</sup> Jan 2021	<b>The digestive system</b>	<p><b><u>You should be able to:</u></b></p> <p><b>Explain</b> the terms cell, tissue, organ, organ system and organism, and be able to give examples of each.</p> <p><b>Describe</b> the job of the digestive system</p> <p><b>Identify</b> the positions of the main organs on a diagram of the digestive system.</p> <p><b>Describe</b> the functions of the organs in the digestive system.</p> <p><b>Explain</b> how the stomach and the small intestine is adapted for its function.</p>	<p>Work through pages 2 to 5 and answer questions from page 6 from Organisation home learning pack.</p> <p>Check your answers using slide 7</p>	<p>Watch lesson on digestion  <a href="https://classroom.thenational.academy/lessons/digestion-cn66c?activity=video&amp;step=1">https://classroom.thenational.academy/lessons/digestion-cn66c?activity=video&amp;step=1</a></p> <p>Adaptation organs  <a href="https://classroom.thenational.academy/lessons/absorption-74v38e?activity=video&amp;step=1">https://classroom.thenational.academy/lessons/absorption-74v38e?activity=video&amp;step=1</a></p>	

<p>11<sup>th</sup> Jan 2021</p>	<p><b>Enzymes in the digestive system</b></p>	<p><b><u>You should be able to:</u></b></p> <p><b>Define</b> the terms ‘catalyst’ and ‘enzyme’.</p> <p>Describe the properties of enzymes.</p> <p><b>Explain</b> why enzymes are specific and are denatured by high temperatures and extremes of pH.</p> <p>Use the lock and key theory and collision theory to explain enzyme action.</p> <p><b>Required practical:</b> <b>Describe</b> the chemicals and colour changes in the food tests.</p>	<p>Please read through slides 8 to 12. From each slide summaries the key points.</p> <p>Please complete the following questions,</p> <p>1) Which enzymes are present in the body and what do they do?</p> <p>2) which part of the body are they produced?</p> <p>3) Describe the process by which enzymes breakdown substrates? (use slide 10)</p>	<p>Complete the lesson videos and the tasks given throughout:</p> <p><b>Digestive enzymes:</b> <a href="https://classroom.thenational.academy/lessons/digestive-enzymes-6dgkgr">https://classroom.thenational.academy/lessons/digestive-enzymes-6dgkgr</a></p> <p><b>Food tests:</b> <a href="https://classroom.thenational.academy/lessons/food-tests-61h3cd">https://classroom.thenational.academy/lessons/food-tests-61h3cd</a></p> <p>Consolidate your learning and try some exam practice at:</p> <p><a href="https://www.bbc.co.uk/bitesize/topics/zwtcng8">https://www.bbc.co.uk/bitesize/topics/zwtcng8</a></p>
<p>18<sup>th</sup> Jan 2021</p>	<p><b>Cardiovascular disease</b></p>	<p><b><u>You should be able to:</u></b></p> <p><b>Describe</b> what coronary heart disease is and the role of statins and stents in treating it.</p> <p><b>Understand</b> the consequences of faulty valves and <b>evaluate</b> their</p>	<p>Read slide 29 to 33. You need to summaries the key points from each slide.</p> <p>Please attempt the following questions:</p> <ol style="list-style-type: none"> <li>1) Can you describe what is meant by “Atherosclerosis”?</li> <li>2) How can you treat Atherosclerosis?</li> </ol>	<p>Complete the lesson videos and the tasks given throughout:</p> <p>Heart Disease: <a href="https://classroom.thenational.academy/lessons/heart-disease-61k68d">https://classroom.thenational.academy/lessons/heart-disease-61k68d</a></p> <p>Consolidate your learning and try some exam practice at:</p> <p><a href="https://www.bbc.co.uk/bitesize/topics/zwtcng8">https://www.bbc.co.uk/bitesize/topics/zwtcng8</a></p>

		<p>replacement with mechanical or biological valves.</p> <p><b>Evaluate</b> the treatment of heart failure with a heart transplant or an artificial heart</p>	<p>3) How does a heart valve work and what does it do?</p> <p>4) What are the conditions required for one to be accepted for a heart transplant?</p>	
25th January 2021	<b>The Circulatory System</b>	<p><b><u>You should be able to:</u></b></p> <p><b>Compare</b> the components of the blood.</p> <p><b>Relate</b> blood vessel structure to the function of the vessel.</p> <p><b>Label</b> a diagram of the heart.</p>	<p>Please read and make notes from slide 18 and 19.</p> <p>Attempt the questions on slide 20 – 25</p> <p>Check your response using slide 26</p>	<p>Complete the lesson videos and the tasks given throughout:</p> <p><b>Blood and vessels:</b>  <a href="https://classroom.thenational.academy/lessons/blood-and-blood-vessels-c8t62c">https://classroom.thenational.academy/lessons/blood-and-blood-vessels-c8t62c</a></p> <p><b>The Heart:</b>  <a href="https://classroom.thenational.academy/lessons/the-heart-6ct3jd">https://classroom.thenational.academy/lessons/the-heart-6ct3jd</a></p> <p>Consolidate your learning and try some exam practice at:  <a href="https://www.bbc.co.uk/bitesize/topics/zwtcng8">https://www.bbc.co.uk/bitesize/topics/zwtcng8</a></p>

<p>1<sup>st</sup> of February 2021 08 February 2021</p>	<p><b>Health and risk factors</b></p>	<p><b><u>You should be able to:</u></b></p> <p><b>Define</b> health.</p> <p><b>Describe</b> risk factors that correlate with cancer and cardiovascular disease.</p> <p><b>Distinguish</b> between correlation and causation and identify these from graphs [Maths skills].</p>	<p>Read slide 34-37 and make notes from them. You need to ensure you summaries each slide.</p> <p>Please attempt the following questions:</p> <ol style="list-style-type: none"> <li>1) What is meant by communicable and non-communicable disease?</li> <li>2) What are the human and financial costs of non-communicable diseases?</li> <li>3) Describe a hazard, the risk factor and the harm poor diet can do ?</li> </ol>	<p>Complete the lesson videos and the tasks given throughout:</p> <p>Cancer: <a href="https://classroom.thenational.academy/lessons/cancer-c8rp8d">https://classroom.thenational.academy/lessons/cancer-c8rp8d</a></p> <p>Risk factors <a href="https://classroom.thenational.academy/lessons/non-communicable-disease-75jk6r">https://classroom.thenational.academy/lessons/non-communicable-disease-75jk6r</a></p> <p>Consolidate your learning and try some exam practice at: <a href="https://www.bbc.co.uk/bitesize/topics/zwtcng8">https://www.bbc.co.uk/bitesize/topics/zwtcng8</a></p>
<p>8<sup>th</sup> Feb 2021</p>	<p><b>Transpiration in plants</b></p>	<p><b><u>You should be able to:</u></b></p> <p><b>Describe</b> the role of stomata and guard cells in controlling water loss in a plant.</p> <p><b>Describe</b> how to investigate transpiration using a potometer.</p> <p><b>Explain</b> the effect of changing temperature, humidity, light intensity and air movements on the rate of transpiration.</p>	<p>Read pages 47 – 49 You need to make notes from each slide you summarie the key message.</p> <p>Please attempt the following questions:</p> <ol style="list-style-type: none"> <li>1) Order these from the smallest to the largest. Human, Mitochondria, cell, heart, muscle tissue, circulatory system.</li> <li>2) Describe how the structure of the leaf is adapted to its function(job)?</li> </ol>	<p>Complete the lesson videos and the tasks given throughout:</p> <p><b>Transport in plants:</b> <a href="https://classroom.thenational.academy/lessons/transport-in-plants-6rr38c">https://classroom.thenational.academy/lessons/transport-in-plants-6rr38c</a></p> <p><b>Investigating transpiration:</b> <a href="https://classroom.thenational.academy/lessons/investigating-transpiration-6tjk0r">https://classroom.thenational.academy/lessons/investigating-transpiration-6tjk0r</a></p> <p>Consolidate your learning and try some exam practice at: <a href="https://www.bbc.co.uk/bitesize/topics/zwtcng8">https://www.bbc.co.uk/bitesize/topics/zwtcng8</a></p>