

Learning Plan 2	Subject/Pwnc: Science – Double Award (Biology)	Year/Blwyddyn: 10		
<p><u>The Four Purposes in Science and Technology:</u></p> <p>Ambitious, capable learners, who: set themselves high standards; seek and enjoy challenge; are increasingly knowledgeable and skilful; ask questions; enjoy solving problems; can explain ideas and concepts; can use number effectively in different contexts; interpret data and apply mathematical concepts; use digital technologies creatively to communicate, find and analyse information; research and evaluate critically what they find.</p> <p>Enterprising, creative contributors, who: take measured risks.</p> <p>Ethical, informed citizens, who: find, evaluate and use evidence in forming views; consider the impact of their actions when making choices and acting; are committed to sustainability.</p> <p>Healthy, confident individuals, who: are establishing their ethical beliefs; face and overcome challenge.</p>				
<p>Knowledge focus/what matters:</p> <p>Digestion breaks down large molecules into smaller ones that the body can absorb and use for energy and growth. Enzymes like carbohydrase, protease, and lipase help convert carbohydrates, proteins, and fats into their soluble products. Chemical tests such as iodine, Benedict's reagent, and biuret solution identify key nutrients in food. These nutrients are absorbed through the small intestine into the bloodstream and support vital cellular functions.</p>				
Learning objective/key question	What will I know and be able to do? I can...	How will I develop my skills? (Success Criteria)	Homework/Gwaith cartref to support progress	
Week 1 1.3 Digestive system	<ul style="list-style-type: none"> Identify why digestion is essential. Explain the process of converting fats into fatty acids and glycerol etc. Use chemical tests to identify key nutrients in food. Linking digestion to cell function for vital processes such as tissue building. 	<p>I can explain why digestion is necessary for breaking down large molecules to smaller ones.</p> <p>I can describe how fats, proteins and carbohydrates are broken down into their soluble products.</p> <p>I can confidently carry out and interpret chemical tests for both starch and glucose.</p>	Wk 1	<p>Homework:</p> <p>Set:</p> <p>Due:</p>
Week 2 1.3 Digestive system	<ul style="list-style-type: none"> State how specific enzymes help break down food. Describe and label human digestive system. Explore how different organs contribute to digestion and absorption. 	<p>I can identify and explain how specific enzymes are broken down into absorbable molecules.</p> <p>I can accurately describe and label the main parts of the human digestive system.</p>	Wk 2	<p>Homework:</p> <p>Set:</p> <p>Due:</p>

Week 2 1.3 Digestive system	<ul style="list-style-type: none"> Define and explain the process of peristalsis. 	<p>I can explain how different organs in the digestive system work together to break down food and absorb nutrients.</p> <p>I can define peristalsis and explain how contractions push food along the oesophagus, stomach and intestines.</p>		
Week 3 1.3 Digestive system	<ul style="list-style-type: none"> Explain how soluble substances journey to the bloodstream (Visking Tube) Explore the uses for various products in the body i.e. fats for energy. State how different foods contain amounts of energy, and the risk of consuming unhealthy balances. 	<p>I can explain how soluble substances like glucose and amino acids pass through into the bloodstream.</p> <p>I can describe how the products of digestion are used by the body for energy, storage and building proteins.</p> <p>I can identify that different foods contain varying amounts of energy and link to health risks.</p>	Wk 3	Homework: Set: Due:
Week 4 1.4 Circulatory system	<ul style="list-style-type: none"> Explore and draw the structure and function of blood. Understand the roles blood adopts on the human body. Identify the steps coronary vessels take to protect the heart and ensure a healthy heart. 	<p>I can draw and label the main components of blood.</p> <p>I can describe how blood supports the body by transporting oxygen and nutrients.</p> <p>I can explain how coronary vessels supply the heart muscle with oxygen-rich blood to keep it healthy.</p>	Wk 4	Homework: Set: Due:
Week 5 1.4 Circulatory system	<ul style="list-style-type: none"> Explain how blood travels through arteries maintaining continuous circulation. Label and identify key parts of the heart using scientific terminology. Identify responsibilities of the double circulatory system. 	<p>I can explain how blood flows away from the heart to help maintain continuous circulation.</p> <p>I can accurately label and identify key parts of the heart using the appropriate scientific terms.</p> <p>I can describe how the double circulatory system works (double loop) linking structure to function.</p>	Wk 5	Homework: Set: Due:

Week 6 1.4 Circulatory system	<ul style="list-style-type: none"> State how capillaries, blood vessels allow substances to diffuse out of the blood into tissues. Explore how capillary networks ensure every cell is close to blood supply. 	<p>I can explain how capillaries have thin walls that allow substances like oxygen to diffuse out of the blood to surrounding tissues.</p> <p>I can describe how capillary networks spread throughout organs and tissues to ensure every cell is close to a blood supply.</p>	Wk 6	Homework: Set: Due:
Week 7 1.4 Circulatory system	<ul style="list-style-type: none"> Identify the structure of arteries and veins and how their design supports their role: arteries have thick walls to handle high pressure. Examine the risk factors for cardiovascular disease - diet, exercise, smoking and genetic. Compare the pros and cons of different treatments for cardiovascular disease. 	<p>I can describe the structure of arteries and veins and explain how their design supports their function.</p> <p>I can identify and explain key risk factors for cardiovascular disease including poor diet, lack of exercise and genetic influences.</p> <p>I can compare the advantages and disadvantages of treatments for cardiovascular disease.</p>	Wk 7	Homework: Set: Due: