


Learning Plan 3		Subject/Pwnc: Gwyddoniaeth	Year/Blwyddyn: 8
<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; are questioning; enjoy solving problems; can communicate effectively; can explain the ideas and concepts; can use number effectively; understand how to interpret data and apply mathematical concepts</p> <p>Enterprising, creative contributors who: connect and apply their knowledge and skills to create ideas; think creatively to reframe and solve problems; identify and grasp opportunities; take measured risks</p> <p>Ethical, informed citizens</p> <p>Healthy, confident individuals who: face and overcome challenge; have the skills and knowledge to manage everyday life</p> <p>Knowledge focus/what matters: Being curious and searching for answers. The world around us is full of living things which depend upon each other for survival.</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
Weeks 1 - 2: What are microorganisms and how do they impact on human health?	Compare and contrast the three main types of microorganisms <i>in terms of their appearance, their movement, what are their components and where we find them.</i>	I can draw, label, describe and compare bacteria, fungi and viruses. I understand how microbes can move around and where we normally find them.	Wk 1 Set: Due:

	<p>Explain how microbes can 'invade' the human body and how the body defends itself.</p> <p>Describe how white blood cells can produce antibodies or engulf microbes to neutralise them.</p>	<p>I can explain the two ways in which the white blood cells identify and then deal with invading microbes.</p> <p>I can compare a model of a castle and its defenders to the human immune system.</p>	Wk 2	<p>Set:</p> <p>Due:</p>
<p>Week 2 - 3</p> <p>What are vaccines and how do they work?</p> <p>How and when were vaccines discovered?</p>	<p>Appreciate how diseases can spread.</p> <p>Know that vaccines were developed through experimentation and the scientific method.</p> <p>Explain the evidence behind how vaccines work & became accepted by the scientific community.</p> <p>Read and understand a complex text about the development of the smallpox vaccine and the case study of Edward Jenner.</p> <p>I can interpret and analyse graphical data and evaluate how it supports the theory that smallpox eradication is due to vaccination.</p>	<p>I can name infectious diseases and explain the means of transmission.</p> <p>I can interpret and evaluate evidence.</p> <p>I can draw conclusions based on different types of evidence.</p> <p>I can produce an extended answer to a question or problem. I can analyse and evaluate data from a graph.</p>	Wk 3	<p>Set:</p> <p>Due:</p>
<p>Week 4 - 6</p> <p>Is breathing the same as respiration?</p> <p>Why are some people fitter than others and what causes cramp?</p>	<p>State the purpose of aerobic respiration. Explain how the lungs are adapted for efficient gas exchange. Describe the process by which substance transfer between cells and blood vessels.</p> <p>Describe the difference between aerobic and anaerobic respiration. Explain muscle fatigue and oxygen debt.</p> <p>Compare and contrast the different adaptations organisms have to achieve efficient gas exchange.</p>	<p>I can explain the difference between breathing and respiration from the aerobic equation.</p> <p>I can identify the organs within the breathing system and research how they are adapted to their function.</p> <p>I can measure both heart rate and breathing rate and link that to activity. I can make links comparing the breathing system of plants, humans and fish.</p>		<p>Set:</p> <p>Due:</p>

