



Big Question: Can We Improve the Fitness of Saltney Town FC?

AoLE: Science & Technology	Subject: Science - Biology	Year: 9
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Big Question / Aim / Objective / Concept	Vision (Proposed outcome) / Purpose of curriculum	Prior knowledge / Learners previous knowledge
<p>Can we improve the fitness of Saltney Town FC?</p> <p>Students study the concepts of digestion, respiration and the cardiovascular system.</p>	<p>This Big question covers:</p> <ul style="list-style-type: none"> - Nutrition and why nutrients are needed for the body - Digestive system structure, functions and adaptations - Circulatory system structure, functions and adaptations - Impacts on human health, smoking, alcohol and drugs - How diseases spread 	<ul style="list-style-type: none"> -understand that foods contain a variety of substances needed by the body and recognise the idea of nutrition as a life process. -appreciate that a wide variety of foods needs to be eaten to have a balanced diet. -know that food contains stored energy. -be familiar with the names and positions of some of the organs in the digestive system. -know that substances are carried around the body by the blood. -the idea and process of absorption will be unfamiliar to most. -be familiar with respiration as one of the life processes. -know what digestion does. -be able to describe the function of the heart. -know that organs are made of tissues and tissues are made of cells. -know that the breathing rate varies.

What does progression look like in this Big Question?

Progression Indicator	Description of learning (What matters statements)	Student evidence of progression (Blooms) / Knowledge
Excelling	<p>I can explain how biological processes and control mechanisms enable organisms to function, develop, reproduce and survive.</p> <p>I can evaluate the factors which affect the development and health of organisms.</p>	<p>Describe, explain and draw conclusions for the qualitative protein, glucose, starch and lipids tests.</p> <p>Explain what food allergies and intolerances are.</p> <p>Describe how nutrients are supplied to cells via the blood and tissue fluid.</p> <p>Explain why some food cannot be digested by humans.</p> <p>Recall some of the evidence that has led to current ideas about blood circulation.</p> <p>Identify anomalous results and evaluate evidence.</p> <p>Explain how the body is adapted to fight disease</p>
Advancing	<p>I can describe the levels of cellular organisation and how cells perform biological processes that ensure the development and survival of organisms.</p>	<p>Use models to represent the digestion of large insoluble food molecules.</p> <p>Display data in a variety of different forms.</p> <p>Describe how nutrients are digested and absorbed.</p> <p>Identify possible reasons why correct theories may not be accepted.</p> <p>Describe how glucose is transported around the body by the circulatory system.</p> <p>Describe the effects of alcohol and drugs on the body</p> <p>Describe the structure of the heart</p>
Securing	<p>I can describe the features of organisms and recognise how they allow them to live,</p>	<p>Use a model to describe the action of enzymes.</p>



	<p>grow and reproduce for survival in their environment. I can explain the role of different organs and systems that enable plants and animals to live and grow.</p>	<p>Carry out and interpret results from tests for starch and fat. Describe what a balanced diet is. Describe how digested food is transported around the body. Recall that nutrients, fibre and water are all vital components of a balanced diet and good sources of these substances. Recall the roles of nutrients, fibre and water in the body. Recall that some athletes choose to abuse medical drugs that have been developed for other purposes. Recognise a range of jobs that are involved in the training of athletes. Record observations accurately and identify patterns in data using charts. Explain the importance of control experiments and sample size when carrying out an investigation. Recall the blood vessels</p>
Beginning	<p>I can recognise patterns from my observations and investigations and can communicate my findings. I can use my knowledge and understanding to predict effects as part of my scientific exploration. I can explore relationships between living things, their habitats and their life cycles.</p>	<p>Use data from secondary sources of information to construct bar charts. Display data in tables. Recall the names of the major nutrients in food and good sources of these substances. Recall that theories about circulation have changed. Recall that digested food is needed for energy. Recall the name for disease causing pathogens Recall the parts of the blood</p>

Authentic learning experiences (Local / National / International)	Skills (Literacy / Numeracy / DCF) / Cross Curricular links
<p>Saltney Town FC. Impact of diet, respiration and cardiovascular system on a local sports team.</p>	<p>Literacy: WF – Word familiarisation EC – Extended reading/ comprehension RR – Research and report EW – Extended writing, DS – Debates and speaking Numeracy: Analysis of data, application of formulae, constructing line graphs (SALUTE) M – Measuring C – Calculations T – Tables L – Line graphs B – Bar charts SS28, N - Numbers DCF: IR – Internet research DL - Datalogging WP – Word processing SS – Spreadsheets PS – Presentation software MS – Media software</p>

Assessment (How will we know that students have learnt what we taught them?)	
<p>Formative assessment:</p> <p>Quick quiz questions Word sheets Quick checks Summary sheets I can progression ladders</p>	<p>Summative assessment:</p> <p>Written Assessment mid-point test Explain what an enzyme is and how it works?</p> <p>Summative assessment end of topic test: End of unit test Digestion and Circulation System</p>

Evaluation (to be completed 2024)		
Strengths	Areas for Development	Pupil Voice



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