Biology Autumn Term Year 9 Summative Comment		Curriculum Checkpoints: What do students know and what can they do?				YT Clips	Further guidance
		Developing	Securing	Mastering	Excelling		
Organ Systems	Substantive Knowledge	To know the functions of the organs in the digestive system. Label the main organs of a plant and describe their function.	Be able to describe the 3 types of digestive enzymes and where they are produced. Describe the function of the heart and circulatory system. Label the parts of a leaf and describe the function of each part. Describe the components of blood.	Be able to explain the importance of the small intestines and how it is adapted for its function. Explain why enzymes are specific and can be denatured. Describe & explain the role of stomata and guard cells.	To be able to explain enzyme action using the lock and key theory and collision theory. Explain the differences in blood vessel structure and link to its function. Describe the function of the components of blood.	https://www.youtube.com/watch?v=4ui4oSHHnzA&list=PL9IouNCPbCxXGDt3ATU1xM_X_F8JghPCB	https://www.physicsandmathstutor.com/biology-revision/gcse-aqa/organisation/
Organ Systems	Disciplinary Knowledge	Use qualitative reagents to test for a range of carbohydrates, lipids and proteins.	To be able to use a continuous sampling technique to determine the complete digestion of starch at a range of pH values.	Be able to measure the rate of transpiration by the uptake of water.	Process data from investigations involving stomata and transpiration rates to find arithmetic means, understand the principles of sampling and calculate surface areas and volumes. Calculate stomatal density.	https://www.youtube.com/watch?v=8Yqbu56ImXk https://www.youtube.com/watch?v=akMLGbNA0gE	
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Cells	Substantive Knowledge	To know the structure of eukaryotic plant and animal cells. To be able to name cell organelles and know their function. Be able to describe diffusion and osmosis.	Be able to describe and explain differences between prokaryotic and eukaryotic cells. Be able to explain how the structure of specialised cells relate to their function. Be able to describe how substances are transported in to and out of cells by diffusion, osmosis and active transport.	Be able to explain the importance of cell specialisation. Be able to explain mitosis. Know what stem cells are and how they can be utilised. Be able to explain how substances are transported in to and out of cells by diffusion, osmosis and active transport.	Explain where diffusion, osmosis and active transport occur in living organisms and explain differences between the processes. To understand how structures in organisms are adapted for exchanging materials.	https://www.youtube.com/watch?v=HBZcpzr5B2g&list=PL9IouNCPbCxVU74eQtCcgbaQdYmwzAnlC	https://www.physicsandmathstutor.com/biology-revision/gcse-aqa/cell-biology/

Cells	**Disciplinary Knowledge**	Be able to recognise images of cells. Be able to use a light microscope. Be able to calculate percentages. Plot points on a graph.	Be able to draw and interpret images of cells. Be able to demonstrate an understanding of the scale and size of cells. Be able to carry out magnification calculations. Plot points on a graph accurately.	Be able to calculate percentage gain and loss of mass from a table. Plot points on a graph including negative values.	Be able to calculate percentage gain and loss of mass from a graph. Draw a line of best fit on a graph and extrapolate data.	https://www.youtube.com/watch?v=itp1Dpz0EnY	