Subject: Year 9: B3: Organisation and the digestive system

Overarching Topic: B3: Organisation and the digestive system

Why is this topic being studied at this time? How does it fit into the wider subject curriculum?	In this section we will learn about the human digestive system which provides the body with nutrients it requires to function. Students should also have an awareness of what different nutrients are required from KS3 and how these are subsequently processed, digested and absorbed as they move through the digestive system. Students will develop an awareness of the different nutrient types found in their food using food tests. Students will then critically evaluate the use of bariatric surgery at the expense of the NHS.		
	Critical	**Core**	**Pinnacle**
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	• Why are different nutrients a necessity for living organisms? • What is the organisation of cells, tissues, organs and organ systems in organisms? • What is a tissue? • What is an organ? • What is the role of the organs within the digestive system? • What is an enzyme? • What are the digestive enzymes and what do they do?	• How do different components of the digestive system work together in order to maximise the efficiency of digestion? • How do enzymes work? • What is the effect of changes in pH and temperature on enzyme function? • Can I carry out food tests and interpret qualitative data? • How to design an experiment to investigate the different food groups in multiple types of food?	• What is the link between protein structure and effect of changing pH and temperature of enzymes? • How can bariatric surgery help fight obesity? • Should the NHS fund bariatric surgery?
	TRIPLE ONLY QUESTIONS • N/A	**TRIPLE ONLY QUESTIONS** • N/A	**TRIPLE ONLY QUESTIONS** • N/A
The Key Skills/ Techniques	**The sophistication and application of skills will become more advanced as students' progress through the critical, core and pinnacle knowledge.**		
	Skill/Technique	**How will this skill be developed?**	
	1. Graphing & Drawing	Scientific drawing of the lock and key theory, concepts and scientific equipment used in food tests.	
	2. Variables	Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.	
	3. Data Analysis	Identify links and patters within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.	
	4. Application	Apply known and taught theory in unfamiliar contexts. Making links to taught theory and extracting key ideas. Communicating using correct scientific terminology.	
	5. Working Scientifically	Identify hazards and planning to limit risk. Describe how to improve accuracy/precision/repeatability/reproducibility/validity. Evaluate reliability of methods and investigations, taking into account data analysis.	