



What have I done previously in my learning journey?								
Previously....		You have learnt previously about cells and organisation. This has involved learning about: <ul style="list-style-type: none">the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms. You have also learnt about nutrition and digestion. This has involved learning about: <ul style="list-style-type: none">the content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is neededcalculations of energy requirements in a healthy daily dietthe consequences of imbalances in the diet, including obesity, starvation and deficiency diseasesthe tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes simply as biological catalysts)the importance of bacteria in the human digestive system.						
In this topic...		You will learn about the human digestive system which provides the body with nutrients. Dissolved materials are quickly moved about the body in the blood by the circulatory system. Damage to these systems can be debilitating if not fatal. Many interventions would not be necessary if individuals reduced their risks through improved diet and lifestyle.						
We will develop our learning by studying the following each lesson:						RAG	Skills in Science checklist	
B2.01 The Digestive System and Principles of Organisation <ul style="list-style-type: none">Explain the differences between cells, tissues, organs and organ systems.Describe how the organs of the digestive system work together to digest and absorb food.							<input type="checkbox"/> Scientific Method <input type="checkbox"/> Practical <input type="checkbox"/> Number skills <input type="checkbox"/> Application <input type="checkbox"/> Communication	
B2.02 Food Tests RP (2 Lessons) <ul style="list-style-type: none">Describe how to test for sugars, starch, proteins and lipids using qualitative reagents, including the expected results (required practical activity 3).							<input type="checkbox"/> Scientific Method <input type="checkbox"/> Practical <input type="checkbox"/> Number skills <input type="checkbox"/> Application <input type="checkbox"/> Communication	
B2.03 Enzymes <ul style="list-style-type: none">Explain enzyme action using the ‘lock and key theory’, including the specificity of the active site.Describe how enzyme activity is affected by temperature and pH changes.							<input type="checkbox"/> Scientific Method <input type="checkbox"/> Practical <input type="checkbox"/> Number skills <input type="checkbox"/> Application <input type="checkbox"/> Communication	
B2.04 Investigating Enzymatic Reactions RP (2 Lessons) <ul style="list-style-type: none">Describe a method to investigate the effect of pH on the rate of reaction of amylase enzyme (required practical activity 4).Carry out rate calculations for chemical reactions.							<input type="checkbox"/> Scientific Method <input type="checkbox"/> Practical <input type="checkbox"/> Number skills <input type="checkbox"/> Application <input type="checkbox"/> Communication	
B2.05 Enzymes and Digestion <ul style="list-style-type: none">Describe the role of enzymes in digestion.Recall the sites of production and the action of amylase, proteases and lipases.State the reactants and products of the reactions catalysed by carbohydrases (including amylase), proteases and lipases.Explain what the products of digestion are used for in the body.State the sites of production and storage of bile.Describe the function of bile and explain why it is alkaline.							<input type="checkbox"/> Scientific Method <input type="checkbox"/> Practical <input type="checkbox"/> Number skills <input type="checkbox"/> Application <input type="checkbox"/> Communication	
Key Vocabulary								
Cell	Tissue	Organ	Organ system	Organsim	Specialised cell	Differentiation	Enzyme	Substrate
Active site	Lock and Key Model	Denature	Optimum pH	Optimum temperature	Metabolism	Carbohydrase (eg amylase)	Protease	Lipase
Bile	Emulsification	Peristalsis	Small intestine	Villi / microvilli	Absorbtion	Digestion		



Future Learning	Learning about the digestive system at GCSE helps prepare you for A Level Biology, where you study the same ideas in much more depth. At GCSE you learn the basics of enzymes, digestion and absorption, and how the digestive system breaks down food. At A Level, these ideas expand into detailed biochemistry, including enzyme structure, inhibition, membrane transport, and how molecules like glucose and amino acids are absorbed and used in metabolic pathways. The GCSE content gives you the essential foundation so you can understand the more complex molecular and cellular processes you meet later on.
In careers	<p>Learning about the digestive system isn't just for passing exams — it's the science behind how our bodies work every day. From diagnosing illnesses to designing nutrition plans for athletes, understanding digestion helps solve real health challenges and opens the door to a wide range of exciting careers.</p> <p>Here's how it links to careers:</p> <ul style="list-style-type: none">• Healthcare Science Healthcare scientists use knowledge of human digestion, enzymes, and metabolism to run diagnostic tests, analyse patient samples, and support the diagnosis of digestive disorders such as coeliac disease or pancreatitis. <i>Average UK salary: £28,000–£45,000 (can rise to £60,000+ in senior roles)</i>• Dietetics & Nutrition Dietitians and nutritionists apply understanding of digestion, absorption, and metabolism to help people manage diet-related conditions, improve health, and design nutrition plans for hospitals, schools, and sports teams. <i>Average UK salary: £28,000–£42,000</i>• Medicine & Nursing Doctors and nurses rely on detailed knowledge of the digestive system to diagnose, treat, and manage conditions such as ulcers, IBS, liver disease, and digestive cancers. <i>Average UK salary: Nurses £28,000–£40,000; Doctors £32,000–£70,000+ depending on specialty</i>• Pharmacy Pharmacists use understanding of digestion and absorption to ensure medicines are delivered effectively, advise on drug interactions, and support patients with digestive conditions. <i>Average UK salary: £35,000–£55,000</i>• Biomedical Research Biomedical scientists and researchers study enzymes, metabolism, and digestive diseases to develop new treatments, improve diagnostics, and understand how the body processes nutrients. <i>Average UK salary: £28,000–£45,000 (can rise to £60,000+ in advanced research roles)</i>• Sports Science Sports scientists apply knowledge of digestion and nutrient absorption to optimise athletic performance, recovery, and energy use during training and competition. <i>Average UK salary: £25,000–£40,000</i>