



Knowledge Summary

Year 9 Term 4 2023/24

Biology Module Organisation and the Digestive System



Essential Questions/Knowledge

- State examples of cells, tissues, organs, and organ systems.
- Name organs found in a given organ system
- Order cells, tissues, organs, and organ systems according to their relative sizes.
- Identify some of the organs of the digestive system.
- State the function of some of the organs of the digestive system.
- State simply what happens to food during digestion.
- Recall that food contains the molecules carbohydrates, lipids (fats), and proteins.
- State the function of each food molecule in the diet.
- Carry out a food test and record results in a table.
- Recall that enzymes are proteins that are biological catalysts.
- State one function of enzymes inside the body.
- State the independent variable in a given investigation.
- State that temperature and pH affect how well an enzyme works.
- Plot a line graph.

How students will be assessed on their knowledge

- Daily retrieval
- In-class tasks
- Extended writing questions
- End of unit assessments

Questions/Knowledge to deepen understanding

- Explain why the cells of multicellular organisms are organised into tissues, organs, and organ systems.
- Suggest the function of glandular, epithelial, and muscular tissue in organs.
- Link the process of digestion to other processes in the body in order to explain its function.
- Explain in detail how the small intestine is adapted to its function.
- Explain in detail what happens to food during digestion.
- Explain which food molecules are polymers.
- Apply knowledge of the function of food molecules in the body to give diet advice.
- Suggest what a food contains using results from food tests, evaluating the observed data collected
- Explain how enzymes speed up reactions.
- Explain how enzymes control metabolism.
- Plan an experiment to investigate how different catalysts affect the rate of a reaction.
- Explain in detail how a change in temperature or pH affects the rate of an enzyme-catalysed reaction.
- Apply knowledge of enzymes to explain how some organisms can survive in extreme conditions.
- Draw tangents in order to calculate the rate of a reaction.

Key Concepts

- Tissues and Organs
- The Human Digestive System
- The Chemistry of Food
- Catalysts and Enzymes
- Factors Affecting Enzyme Action
- How the Digestive System Works
- Making Digestion Efficient

Tier 2 and 3 vocabulary linked to the unit

- Cells
- Tissues
- Organs
- Cell
- Glandular
- Epithelial
- Muscular
- Metabolism
- Vasoconstriction
- Molecules
- Carbohydrates
- Lipids
- Proteins
- Enzymes
- Catalyst
- Bile