

KNOWLEDGE



Biology Topic B3 Organisation and the digestive system

ORGANISER

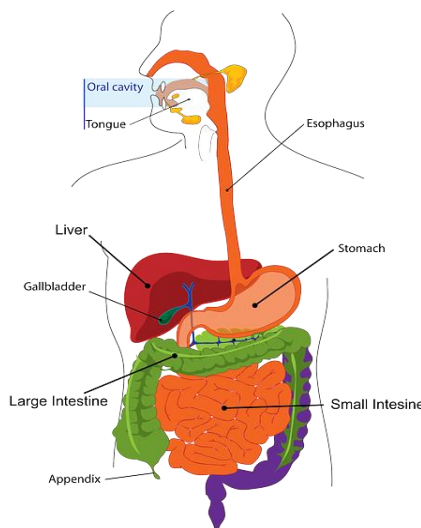
Section 1: Organisation

Tissue	A group of cells with a similar structure and function e.g. muscle tissue
Organ	A group of tissues performing a specific function e.g. heart, leaf
Organ System	A group of organs that perform a specific function e.g. digestive system.

Section 2: Human Digestive System

4 Order of movement of food through the digestive system:

Mouth	Many
Oesophagus	Ordinary
Stomach	Students
Small intestine	Struggle
Large intestine	Learning and
Rectum	Remembering
Anus	Answers



Section 3: Enzymes Key Terms

Enzyme	A biological catalyst that can speed up the rate of reaction without being used itself. Made of a large protein molecule .
Substrate	The chemical that fits into the active site of an enzyme.
Lock and Key Model	Only one type of substrate can fit into the active site of an enzyme, like a key fits into a lock.
Denatured	When the active site of an enzyme changes shape and the substrate can no longer fit in . Can be caused by pH or temperature .

Section 5b: Other Chemicals

Hydrochloric Acid	Acid with pH of 2 produced by the stomach. Unravels proteins .
Bile	Emulsifies fats (turns them into droplets to give a greater surface area). It is alkaline so neutralises acid from the stomach . Produced in liver, stored in gall bladder and is released into the small intestine .

Section 4: Testing for Biological Molecules

Positive Result

Molecule	Chemical Test	Positive Result
Starch	Add orange/brown iodine solution .	Colour turns to blue/black .
Sugar	Add blue Benedict's solution . Place in a boiling water bath for 5 minutes .	Colour turns green/ yellow/ orange/ brick red .
Protein	Add blue Biuret solution .	Colour turns to lilac/ purple .
Lipid	Add ethanol and decant into water .	Cloudy white emulsion .

Section 5a: Human Digestive Enzymes

Enzyme	Function	Sites of production	Sites of action
Amylase	Breaks starch into sugars .	Salivary glands Pancreas Small intestine	Mouth Small intestine
Protease	Breaks proteins into amino acids .	Stomach Pancreas Small intestine	Stomach Small intestine
Lipase	Breaks lipids (fats) into fatty acids and glycerol .	Pancreas Small intestine	Small intestine