

STRUCTURE	FUNCTION
Mouth	Where food enters the alimentary canal and digestion begins
Salivary Glands	Produce saliva containing salivary amylase
Esophagus	Muscular tube which moves ingested food to the stomach
Stomach	Muscular organ where digestion continues
Pancreas	Produce digestive enzymes
Liver	Produce bile
Gall Bladder	Stores bile before releasing it into the duodenum
Small intestine-duodenum	Where food is mixed with digestive enzymes and bile
Small intestine-ileum	Where digested food is absorbed into the blood and lymph
Large intestine- colon	Where water is reabsorbed
Large intestine- rectum	Where faeces are stored
Large intestine- anus	Where faeces leave the alimentary canal

TEETH

Food is broken down into smaller pieces in the mouth by chewing. This is an example of mechanical digestion. The teeth cut and crush food, and the pieces are mixed with saliva to form a ball of food called a bolus.

- incisor – for biting and cutting
- canine – for holding and cutting
- premolar and molar - crushing and chewing

Tooth decay; Tooth decay happens when the hard outer enamel of the tooth is damaged. This can happen when bacteria in the mouth convert sugars into acids that react with the enamel. Bacteria can then enter the softer dentine inside. It can be prevented by consuming fluoride, avoiding high sugars, brushing your teeth regularly

INGESTION

Food **enters** the digestive system **through the mouth**. This process is called ingestion. Once in the mouth, the food is chewed to form a ball of food called a **bolus**. This passes down the esophagus and into the stomach. Food is moved through the digestive system by a process called **peristalsis**. Two sets of muscles in the gut wall are involved:

- circular muscles - which reduce the diameter of the gut when they contract
- longitudinal muscles - which reduce the length of the gut when they contract

The muscles work together to produce wave-like contractions. These have a 'squeezing action' that pushes the bolus through the gut.

DIGESTIVE ENZYMES

Digestion is the breakdown of large, insoluble food molecules into small, water-soluble molecules using mechanical and chemical processes. **Mechanical digestion** includes:

- chewing in the mouth
- churning in the stomach

Chemical digestion involves **enzymes**. These are proteins that function as biological **catalysts**. Enzymes can break down nutrients into small, soluble molecules that can be absorbed. For example, amylase causes the breakdown of starch into simple sugars. Where enzymes are produced

ENZYME	SUBSTRATE	END-PRODUCTS	WHERE PRODUCED
Salivary Amylase	Starch	Maltose	Salivary Glands
Protease	Protein	Amino acids	Stomach, Pancreas
Lipase	Lipids (fats and oils)	Fatty acids and Glycerol	Pancreas
Pancreatic Amylase	Starch	Maltose	Pancreas
Maltase	Maltose	Glucose	Small intestine