

# The digestive system theory



**ASSIGN  
BUSTER**

[pic]Theory notes: Digestion is the process of breaking down organic food into molecules that are small enough to enter cells Chemical digestion : the process of breaking apart complex molecules into simple molecules is called chemical digestion when carried out by enzymes. Mechanical digestion: Is the physical breaking down of larger food into pieces to increase its surface area (the higher the surface area, the higher the rate of chemical digestion. Peristalsis: the squeezing of the digestive tract that pushes food down in one direction. Bolus: the partially digested food that is swallowed after mastication. Chyme: the partially digested food mixed with the enzymes and acid in the stomach. Bile: The secretion produced by the liver, stored in the gall bladder and released into the small intestine. It acts as an emulsifying agent, physically breaking up large fat droplets into smaller ones to increase the surface area of food being digested. Amylase: enzyme which acts on carbohydrates Protease: enzyme which acts on proteins Lipase: enzyme which acts on lipids (fats) Villi: The finger-like projections that increase the surface area of the lining of the small intestine lining. Microvilli: The finger-like projections on the surface of the cell to increase the surface area. [pic] Duodenum: Is the first part of the small intestine where chyme is neutralised by bile and is further digested by pancreatic enzymes. (digestion of proteins, fats and sugars for absorption). Mouth and oral cavity: Teeth mechanically break food into small pieces (mastication); saliva lubricates food and amylase digests starch into maltose. Epiglottis: closes off the trachea so food goes down the oesophagus. Oesophagus: peristalsis carries food to the stomach. Stomach: Proteases begin the digestion of proteins. Pancreas: produces enzymes and neutralises acid Liver: produces bile which emulsifies fats. Gall bladder: stores bile Small intestine: digestion is completed by

enzymes from the pancreas and the small intestine itself; nutrients and water are absorbed. Liver: The organ that secretes bile and stores glycogen (sugar storage). Also processes other chemicals. Large intestine: water is absorbed along with soluble compounds such as vitamins and minerals; undigested food leaves body as faeces. Rectum: The organ for storage of faecal matter Anus: The sphincter that regulates the release of faecal matter. [pic]