

# [Digestive system learning outcomes](https://assignbuster.com/digestive-system-learning-outcomes/)

Main functions of digestive systemdigestion breaks food into particles small enough to pass through the cells plasma membrane; after digestion circulation carries nutrients to the cells in every part of the body (absorption); undigested waste material is eliminated4 layers of digestive wall tractmucous membrane: the epithelium has multiple layers of squamous cells & remainder of digestive tract simple columnar; goblet cells are between epithelial cells
submucosa: blood vessels & nerves
smooth muscle layer: aids in peristalsis
serous membrane: simple squamous epithelium & loose connective tissue which forms part of the peritoneum ONDIGESTIVE SYSTEM LEARNING OUTCOMES SPECIFICALLY FOR YOUFOR ONLY$13. 90/PAGEOrder NowDifferentiate between the 2 layers of the peritoneummescentery: double layered & shaped like fan; the handle is attached to the posterior abdominal wall & the expanded long edge is attached to small intestine; the section of the peritoneum that extends from the colon to the posterior abdominal wall is the mesocolon
greater omentum: lg double layer of fat that hangs over the front of the intestine; extends from the lower border of the stomach to the pelvic cavity & loops back up to the transverse colon; a smaller membrane called the lesser omentum extends between the stomach & the liverName & describe the functions of the organs of the digestive tractthe mouth: ingestion. mastication, salivary amylase, deglutition
the teeth: incisors (cutting teeth), cuspids (canines) grip and tear food, molars are lg posterior grinding teeth; dentin (main substance in teeth harder than bone, enamel is the hardest substance in the body
the pharynx: the soft palate & uvula prevent food from entering nasal cavity; the epiglottis covers the opening of the larynx
esophagus: 10 in long tube that lubricates food
the stomach: J shaped organ with 2 sphincters that separate it from organs above & below; the LES (cardiac sphincer) separates the esophagus from the region of stomach close to the heart; the pylorus (pyloric sphincter) is important in regulating how rapid food moves into small intestine; secretes gastric juice containing HCl & pepsin; chyme is a mix of gastric juice& food that leaves the stomach to enter the SI
the small intestine: the 1st 10 inches is the duodenum; jejunum is is the middle of SI; remaining portion is ileum; SI secretes enzymes that digest proteins & carbs & digestive juices from lives & pancreas enter through hole in the duodenum; most digestion, absorption of digested food, water & minerals takes place in the SI with help of villi; each villus contain blood vessels through which digestion products are absorbed into blood
the large intestine: 5 ft long named for its diameter not its length; begins in the lower right region of abdomen; the 1st part is the cecum; between the ileum of the SI & the cecum is a spincter (ileocecal valve) that prevents food from backing up into SI; the 2nd portion is the ascending colon; the sigmoid colon leads to the rectum; secretes mucus but no enzymes; food is not digested but water is reabsorbed; food residue is stored & bacteria that live in the colon act to produce vit K & some B complex vitaminsName & describe the functions of the accessory organs of digestionsalivary glands: lysozymes help reduce bacterial growth; salivary amylase converts starch to sugar; saliva is manufactured by 3 parts of glands (partoid, submandibular, sublingual)
the liver: the liver is supplied blood through the portal vein & hepatic artery; manufactures bile; stores glucose in form of glycogen; stores some vitamins & iron; forms blood plasma proteins, destroys RBC's creating bilirubin; synthesizes urea
the gallbladder: bile from the liver flows into the hepatic ducts then up through the cystic duct connected w the gallbladder; the pancreas: produces enzymes that digest fats, proteins, carbs, & nucleic acids; the protein digesting enzymes are produced in inactive forms which are converted to active forms in the SI by other enzymes; releases lg amounts of sodium bicarbonate that neutralizes the acidic chyme in the SI; functions as an endocrine gland producing hormones insulin & glucagon that regulate sugar metabolismHow does bile function in digestionit proccesses fats; the salts contained in the bile act as detergent to emulsify fat by breaking it into small droplets; bile also aids in fat absorption in the small intestineName & locate the ducts that carry bile from the liver into the digestive tractbile leaves through the common hepatic duct and after collecting bile from the gallbladder the duct becomes the common bile duct and delivers bile to duodenumExplain the role of enzymes in digestion & give examples of enzymesenzymes are proteins that speed up chemical reactions; lipase digests most fats after bile divided it into particles, fats are then broken down into simpler compounds (glycerol & fatty acids); amylase changes starch to sugar; trypsin splits proteins into amino acids which are absorbed through the intestine; nucleases digest DNA & RNAName the digestion products of fats, proteins, and carbohydrates... Absorptionmost absorption takes place through the villi and mucosa of the SI; most fats are absorbed my the villis more permeable lymphatic capillaries (lacteals), the mix of lymph & fat globules that drain from the SI after fat has been digested (chyle) eventually enters the blood when the lymph drains in veins near the heart; minerals & vitamins ingested with food are also absorbed from the SI, they dissolve in water & are absorbed directly into bloodDefine villi & how it works in absorptioneach villus is an arteriole & venule bridged with capillaries, simple sugars, sm proteins, amino acids, & some fatty acids are absorbed into blood through these capillaries; each villus contains blood vessels through which most digestion products are absorbed by the blood; they also contain a lactealExplain use of feedback in regulating digestion & give exampleswhen chyme enters the duodenum nerve impulses inhibit stomach motility so food wont move to rapidly to SI, this is an example of negative feedbackList hormones involved in regulating digestiongastrin: in stomach stimulates release of gastric juice
secretin: in the duodenum stimulates insulin release of water & bicarbonate from pancreas, stimulates release of bile from liver, inhibits stomach
gastric inhibatory peptide: stimulates insulin release from pancreas when glucose enters duodenum; inhibits release of gastric juice
cholecystokinin: in duodenum stimulates release of digestive enzymes from pancreas, stimulates release of bile from gallbladder; inhibits the stomachCommon disorders of the digestive tract & the accessory organsperitonitis (inflammation of the peritoneum), diseases of the mouth & teeth, disorders of esophagus & stomach (hiatal hernia, GERD, stomach cancer, peptic ulcer, intestinal disorders (appendicitis, IBD, Crohn disease, gastroenteritis, diverticulitis), constipation, intestinal obstruction, infection of salivary glands (parotitis), cirrhosis, jaundice, hepatitis, gallstones, pancreatitisHepatitis Cblood & sex transmitted, no vaccineHepatitis Dblood to blood, no vaccineHepatitis Eunderdeveloped regions, no vaccineHepatitis Acommonly transmitted through fecal matter & contaminated food & water, has vaccineHepatitis Btransmitted through blood & body fluids but can be spread through fecal contamination; people with this form of hepatitis may be carriers with no symptoms; usually transmitted through needles