I'm not a robot

Salivary glandsSaliva is secreted into the mouthThe enzyme amylase in saliva begins to digest starch into maltoseSaliva lubricates the food for easy swallowingPage 2Exam code: 0610 & 0970Physical digestion (sometimes referred to as mechanical digestion) is the breakdown of food into smaller pieces without chemical change to the food moleculesThe processes that take place during physical digestion help to increase the surface area of food for the action of enzymes during chemical digestionIt is mainly carried out by the chewing action of the teeth, the churning action of the stomach and the emulsification of fats by bile in the duodenumDid this page help you?Expertise: Head of STEMLucy has been a passionate Maths teacher for over 12 years, teaching maths across the UK and abroad helping to engage, interest and develop confidence in the subject at all levels.Working as a Head of Department and then Director of Maths, Lucy has advised schools and academy trusts in both Scotland and the East Midlands, where her role was to support and coach teachers to improve Maths teaching for all. MeSH Heading Digestive System Tree Number(s) A03 Unique IDD004064 RDF Unique Identifier Annotationgeneral or unspecified; prefer specifics; /abnorm = DIGESTIVE SYSTEM ABNORMALITIES but consider also specific part of digestive system with /abnorm or specific abnormality Scope NoteA group of organs stretching from the MOUTH to the ANUS, serving to breakdown foods, assimilate nutrients, and eliminate waste. In humans, the digestive system includes the GASTROINTESTINAL TRACT and the accessory glands (LIVER; BILIARY TRACT; PANCREAS). Entry Term(s) Ailmentary System Alimentary System Previous Indexing Gastrointestinal System (1966-1971) Public MeSH Note1972; see GASTROINTESTINAL SYSTEM 1963-1971 History Note1972 Entry Combination abnormalities:Digestive System Abnormalities physiology:Digestive System Physiological Phenomena surgery:Digestive System Surgical Procedures Date Established 1972/01/01 Date of Entry 1999/01/01 Revision Date 2008/07/10 A digestive system is a group of organs consisting of the central gastrointestinal (GI) tract and its associated accessory organs that break down food into smaller components so that nutrients can be absorbed and assimilated. This provides the necessary energy to sustain the body. The GI tract is a long tube of varying diameter beginning at the mouth and ending in the anus. The glands of the digestive system consist of the tongue, salivary glands, liver, gall bladder, and pancreas. Digestion can be divided into three stages the oral phase (mouth), the gastric phase (stomach) and the intestinal phase (small intestine) depending on the position of food within the digestive tract. At each stage, different nutrients are digested, under varying circumstances. The GI tract begins to form early during the development of the human body, in the third week after fertilization. Around the 16th day of development, the primitive gut is formed through invaginations of embryonic cells. The initial structures of the digestive system extend from the buccopharyngeal membrane to the cloacal membrane. The mouth forms when the buccopharyngeal membrane breaks down and opens the digestive tract to amniotic fluid. For the rest of fetal development, amniotic fluid is actively swallowed. The organs of the digestive system work together so that complex biomolecules in food are broken down into their simple monomers and absorbed by the body. A number of secretions and the activity of a variety of enzymes, starting from the mouth till the intestines, are involved in this process. The internal structure of the different glands and organs of this system reflect their particular roles, such as the stomach containing multiple muscle layers in order to churn and mix food, or the mouth having salivary glands and teeth for grinding and lubrication. Each organ has a distinct pH and a special set of proteins, electrolytes, and enzymes to facilitate their activity. Different parts of the digestive system are also regulated together, depending on the progression of food through the GI tract. Another important function of the digestive system is the removal of undigested food particles through egestion.The mouth maintains a nearly neutral pH, due to the presence of saliva, though the pH of the mouth can vary temporarily based on the food being ingested. The stomach has the lowest pH in the digestive system, occasionally reaching as low as 1.0. Immediately afterward, though, the enzymes of the small intestine function at a pH between 6.0 and 7.4, resulting in more than a million-fold change in hydrogen ion concentration in the span of a few centimeters. Secretions of the pancreas and liver, consisting of alkaline bile and bicarbonate ions, mediate this remarkable alteration. The separation of the stomach from the small intestine is also maintained by the pyloric sphincter of the stomach a small band of smooth muscle that acts like a valve, regulating the movement of chyme from the stomach into the intestine and preventing its regurgitation. The regulation of digestive secretions can be divided into three phases the cephalic, the gastric and the intestinal phases. The initial cephalic phase is the secretion of digestive enzymes and secretions at the sight, smell or thought of food. Phrases like mouth-watering derive from this phase of digestive regulation, though this stage in regulation affects both salivary glands and the stomach.The gastric phase of regulation begins when food is swallowed. The stomach immediately begins to prepare to receive food through the esophagus. The intestinal phase is associated with the duodenum and not only influences the release of secretions from the liver and pancreas but also provides feedback to the stomach. This alters secretions from the stomach and digestion activity through neuronal and hormonal mediators. It is useful to consider the organs of the digestive system from a developmental standpoint. Until birth, the primitive gut is divided into three segments the foregut, midgut, and hindgut. The foregut comprises the mouth, salivary glands, esophagus, stomach, liver, gall bladder, the superior portion of the pancreas and the initial sections of the duodenum in the small intestine.The midgut continues from this, consisting of the lower duodenum, jejunum, and ileum of the small intestine. The midgut also includes the cecum, appendix, ascending colon, and parts of the transverse colon in the large intestine. The hindgut contains the last one-third of the transverse colon, the descending colon, and the upper parts of the anal canal. These are all parts of the large intestine. The digestive system has a complex anatomy, so lets look at each part below.Digestive system diagram The hard and soft palates form the roof of the mouth and the salivary glands pour their secretions into the mouth during the oral phase of digestion. There are three pairs of major salivary glands, one pair at the floor of the mouth (sublingual glands), another under the tongue (submandibular glands) and the third near the upper teeth (parotid glands). In addition, minor glands in the lips, cheeks, linings of the mouth and throat also help in secreting saliva.Saliva contains two important enzymes called salivary amylase and lipase that begin the process of digesting carbohydrates and fats in the mouth. Saliva is made mostly of water, has some electrolytes and mucus as well as glycoproteins and antimicrobial agents. It is not only important for lubricating food and making it easy to swallow, but it also helps in maintaining oral hygiene. Dehydration can lead to the formation of viscous saliva (since it is 99.5% water) that is unable to reach the regions between the teeth and keep them healthy.Teeth help in tearing, biting, chewing and grinding food. Along with saliva, they transform food into a relatively smooth bolus that can be swallowed. The bolus passes through the esophagus, a long and relatively narrow tube made of smooth muscle that traverses the thoracic cavity. It contains two rings of smooth muscle at the top and bottom called the upper and lower esophageal sphincters.While the upper sphincter is under voluntary control and prevents the passage of food into the respiratory system, the lower esophageal sphincter (LES) is present near the junction with the stomach. When the LES does not close fully, it leads to heartburn or reflux. At the stomach, the diameter of the GI tract increases to form a hollow sac-like structure made of three layers of smooth muscle. These muscles are arranged in longitudinal, diagonal and circular layers. They contract in a coordinated manner to churn the food and mix it with gastric secretions. The mucous membranes of the stomach contain cells that secrete hydrochloric acid (parietal cells) as well as digestive enzymes (chief cells). Enzymes are secreted in an inactive state and become activated in the low pH of the organ.When the stomach is empty or contracted, the inner surface forms a number of ridges called rugae. These ridges are prominent near the pyloric end of the stomach and disappear when the stomach is distended. The stomach also contains endocrine glands that regulate digestion. The hormones produced by the stomach can either enhance or inhibit its digestive activity and include gastrin, histamine, and somatostatin. The liver is the heaviest and largest gland in the human body and is formed of four lobes. Liver function plays a serious role in digestion. The liver releases bile secretions which emulsify fats and enhances the activity of pancreatic and intestinal lipases. The alkaline nature of bile also neutralizes gastric acids when chyme enters the duodenum. Bile is necessary for the absorption of vitamin K from the gut.While some bile can flow directly into the intestine, some of it is stored in the gall bladder and released in response to the ingress of partially digested food from the stomach.The pancreas is among the most important digestive organs and is located behind the stomach. It secretes a large number of enzymes, involved in the digestion of carbohydrates, fats, and proteins. Its proteases are secreted in their inactive form and initially activated through a membrane-bound enzyme in the duodenum called enteropeptidase. A few molecules of an activated enzyme can then create a cascade of active proteases. The pancreas also secretes amylases that digest carbohydrates, and lipases, phospholipases and cholesterol esterases that are involved in fat digestion and metabolism. Hormones secreted by the stomach as well as the intestine control pancreatic secretions.Pancreas Anatomy The small intestine is divided into three regions based on their function, even though they are largely similar from a histological standpoint. The first part of the small intestine is called the duodenum and is the shortest segment. It is curved and surrounds one end of the pancreas. It is separated from the stomach by the pyloric sphincter and receives gastric chyme in small quantities when the sphincter opens. The common bile duct and pancreatic ducts open into the duodenum, where the final stages of digestion occur both due to pancreatic enzymes and membrane-bound intestinal enzymes.The duodenum also contains glands that produce alkaline secretions that neutralize chyme, along with bile. The second section of the small intestine is called the jejunum and marks the site where absorption of digested nutrients begins. The jejunum contains both villi and microvilli that increase its surface area for absorption. The last segment of the small intestine is the ileum, which is also the longest and can be nearly 3 meters in length. This is the site for the absorption of vitamin B12 and reabsorption of bile salts.Small Intestine Anatomy The large intestine consisting of the cecum, colon and rectum function as the sites for water absorption, and the compaction of undigested food into feces. The large intestine is home to a majority of the gut flora of the GI tract, containing over 700 species of bacteria. The diversity of species depends on genetics, environment, and diet, with some studies implying that vaginal birth and breastfeeding can help establish a healthy microbiome. These microorganisms help the body synthesize some B vitamins and vitamin K. There is also some evidence to suggest that the gut microbiome can influence the onset of autoimmune disorders.The rectum stores feces until it can be voided through the anus. Among the most common diseases of the digestive system are those that involve infectious pathogens. A variety of viruses (ex: rotavirus), bacteria (such as Campylobacter, salmonella) and parasites can infect the stomach intestines and cause inflammation and diarrhea. Alternatively, the disorders could be chronic conditions due to autoimmune disorders, such as celiac disease or irritable bowel syndrome. Some enzyme deficiencies can lead to food intolerance, as seen with the inability to digest lactose or milk proteins. The most serious ailments of the GI tract include cancer, with tumors that could start in the oral cavity, esophagus, stomach, liver, pancreas, or colon. There is a lot of evidence linking the incidence of these cancers with diet and lifestyle. Foods that can help are typically plant-based and low in fat and protein. ,the free encyclopedia that anyone can edit.117,937 active editors 7,001,357 articles in EnglishThe English-language Wikipedia thanks its contributors for creating more than seven million articles! Learn how you can take part in the encyclopedia's continued improvement.GL Mk.II transmitter vanRadar, Gun Laying, MarkI, or GL Mk.I for short, was an early World WarII radar system developed by the British Army to provide information for anti-aircraft artillery. There were two upgrades, GL/EF (elevation finder) and GL Mk.II (pictured), both improving the ability to determine a target's bearing and elevation. GL refers to the radar's ability to direct the guns onto a target, known as gun laying. The first GL sets were developed in 1936 using separate transmitters and receivers mounted on gun carriages. Several were captured in 1940, leading the Germans to believe falsely that British radar was much less advanced than theirs. The GL/EF attachment provided bearing and elevation measurements accurate to about a degree: this caused the number of rounds needed to destroy an aircraft to fall to 4,100, a tenfold improvement over early-war results. The Mk.II, which was able to directly guide the guns, lowered the rounds-per-kill to 2,750. About 410 Mk.Is and 1,679 Mk.IIs were produced. (Fullarticle...)Recently featured: Andrea NavageroNosy KombaMcDonnell Douglas Phantom in UK serviceArchiveBy emailMore featured articlesAboutLieke Klaver ahead in the women's 400 metres final... that a 400-metre race in 2025 (pictured) was won by Lieke Klaver, who pretended that an absent competitor was running in front of her?... that the land snail Drymaeus poecilus is notable for the striking variety of colors and patterns on its shell?... that a forensic investigation of Signalgate has determined how a journalist was included in a group chat about Operation Rough Rider?... that two of the players involved in the 2005 Vietnamese football match-fixing scandal did not accept payment because they felt ashamed?... that a rebellion against a peace treaty with the Yuan dynasty operated out of the Historic Site of Anti-Mongolian Struggle on Jeju Island?... that Nathan Frink fled the United States with enslaved children to settle in Canada, where he was elected as a Member of the Legislative Assembly and caught in a smuggling conspiracy?... that Seattle's women's ice hockey team has an expected rival, despite not even having played their first game?... that Cave Johnson Couts was separately acquitted for shooting his foreman, firing on funeral mourners, and whipping a native laborer to death?... that characters' scars in an episode of The Last of Us were made with a paste-based appliance and a food mixer?ArchiveStart a new articleNominate an articleNgg wa Thiong'oKenyan writer and activist Ngg wa Thiong'o (pictured) dies at the age of 87.In sumo, nosato Daiki is promoted to yokozuna.In association football, Liverpool win the Premier League title.In motor racing, lex Palou wins the Indianapolis 500.Ongoing: Gaza warM23 campaignRussian invasion of UkrainetimelineSudanese civil wartimelineRecent deaths: Phil RobertsonMary K. GaillardPeter DavidAlan YentobGerry ConnollySebastio SalgadoNominate an articleMay 30: Statehood Day in Croatia (1990)Johann Sebastian Bach1431 Hundred Years' War: After being convicted of heresy, Joan of Arc was burned at the stake in Rouen, France.1723 Johann Sebastian Bach (pictured) assumed the office of Thomaskantor in Leipzig, presenting the cantata Die Elenden sollen essen in St.Nicholas Church.1922 The Lincoln Memorial in Washington, D.C., featuring a sculpture of the sixteenth U.S. president Abraham Lincoln by Daniel Chester French, opened.1963 Buddhist crisis: A protest against pro-Catholic discrimination was held outside the National Assembly of South Vietnam in Saigon, the first open demonstration against President Ng nh Dim.2008 The Convention on Cluster Munitions, prohibiting the use, transfer, and stockpiling of cluster bombs, was adopted.Ma Xifan (d.947)Colin Blythe (b.1879)Norris Bradbury (b.1909)Wynonna Judd (b.1964)More anniversaries: May 29May 30May 31ArchiveBy emailList of days of the yearAboutSeventeen performing "Oh My!" in 2018South Korean boy band Seventeen made their debut on May 26, 2015, when they performed a showcase for their debut EP 17 Carat in front of a crowd of 1,000 people. Since then, the group have held 9 concert tours, 13 fan meetings, and have performed at a number of music festivals and awards shows. Their concert tours include the Right Here World Tour, which sold over one million tickets, and the Follow Tour, which was noted by Billboard as being the top grossing K-pop tour of 2023. In 2024, Seventeen made their first appearances at festivals in Europe, when they were the first South Korean act to perform at Glastonbury Festival's Pyramid Stage and as headliners for Lollapalooza Berlin. Seventeen's live performances are well regarded by fans and critics alike, and garnered them the award for Top K-pop Touring Artist at the 2024 Billboard Music Awards. (Fulllist...)Recently featured: Accolades received by Top Gun: MaverickNational preserve76th Primetime Emmy AwardsArchiveMore featured listsIgnace Tonen (1840 or 1841 15 March 1916), also known as Nias or by his Ojibwe name Maiagizis ('right/correct sun'), was a Teme-Augama Anishnabai chief, fur trader, and gold prospector in Upper Canada. He was a prominent employee of the Hudson's Bay Company. Tonen was the elected deputy chief before being the lead chief and later the life chief of his community. In his role as deputy, he negotiated with the Canadian federal government and the Ontario provincial government, advocating for his community to receive annual financial support from both. His attempts to secure land reserves for his community were thwarted by the Ontario premier Oliver Mowat. Tonen's prospecting triggered a 1906 gold rush and the creation of Kerr Addison Mines Ltd., although one of his claims was stolen from him by white Canadian prospectors. This photograph shows Tonen in 1909.Photograph credit: William John Winter; restored by Adam CuerdenRecently featured: Australian white ibisHell Gate BridgeAnemonoides blandaArchiveMore featured picturesCommunity portal The central hub for editors, with resources, links, tasks, and announcements.Village pump Forum for discussions about Wikipedia itself, including policies and technical issues.Site news Sources of news about Wikipedia and the broader Wikimedia movement.Teahouse Ask basic questions about using or editing Wikipedia.Help desk Ask questions about using or editing Wikipedia.Reference desk Ask research questions about encyclopedic topics.Content portals A unique way to navigate the encyclopedia.Wikipedia is written by volunteer editors and hosted by the Wikimedia Foundation, a non-profit organization that also hosts a range of other volunteer projects: CommonsFree media repository MediaWikiWiki software development Meta-WikiWikimedia project coordination WikibooksFree textbooks and manuals WikidataFree knowledge base WikinewsFree-content news WikiquoteCollection of quotations WikisourceFree-content library WikispeciesDirectory of species WikiversityFree learning tools WikivoyageFree travel guide WiktionaryDictionary and thesaurusThis Wikipedia is written in English. Many other Wikipedias are available; some of the largest are listed below. 1,000,000+ articles DeutschEspaolFranaisItalianoNederlandsPolskiPortugusSvenskaTing Vit 250,000+ articles Bahasa IndonesiaBahasa MelayuBn-lm-gCataletinaDanskEestiEsperantoEuskaraMagyarNorsk bokmlRomnSimple EnglishSloveninaSrpskiSrpskohrvatskiSuomiTrkeOzbekcha 50,000+ articles AsturianuAzrbaycancaBosanskiFryskGaeilgeGalegoHrvatskiKurdLatvieuLietuviNorsk nynorskShqipSlovenina Retrieved from " 2EP by Seventeen17 CaratEP by SeventeenReleasedMay29,2015(2015-05-29)GenreK-popdance-pophip hopLength16:48LanguageKoreanLabelPledis EntertainmentLOEN EntertainmentSeventeen chronology17 Carat(2015)Boys Be(2015)Singles from 17 Carat "Adore U"Released: May 29, 201517 Carat is the debut extended play (EP) by South Korean boy group Seventeen. It was released on May 29, 2015, by Pledis Entertainment and distributed by LOEN Entertainment. "Adore U" serves as the lead single for the EP.17 Carat features five tracks written, co-written, and co-produced by Seventeen's group members. "Adore U" was chosen as the lead single for the EP and was performed on multiple music shows by the group. "Shining Diamond" was used as a pre-single on the group's reality debut show. The group stated that the tracklist was chosen to reflect Seventeen's core concept of "boys' passion".[1] The album has two physical versions: one with a "black" themed photo card set, and the other with a "white" themed photo card set. All copies include a CD containing the songs and a fold-up poster/lyric sheet."Adore U" is the lead single of the extended play. It was written by Woozi, S.Coups, and Yeon Dong-geon.[2] The Korea Herald states "'Adore U' is a funky pop song about a teenage boy trying to navigate through puppy love."[3] It marks the beginning of the group's trilogy composed of the singles Adore U, Mansae, and Pretty U about a boy meeting, falling in love and asking out a girl. The track was composed and arranged by Woozi, Bumzu, and Yeon Dong-geon. The music video for the single was released on May 29, 2015, and was directed by Dee Shin. The dance choreography accompaniment to the song was choreographed by Hoshi and focuses on "storytelling, and on highlighting each member's strengths onstage".[4] The single has sold more than 38,000 digital copies and peaked at number 13 on the Billboard US World Chart.The EP has sold over 82,972 copies in South Korea.[5] It peaked at number 4 on the Korean Gaon Album Chart[6] and number 8 on the US World Billboard Chart.[7]Year-end listsCritic/publicationListRankRef.BillboardThe 10 Best K-pop Album of 2015Placed[8]Hoshi participated in the choreography of "Adore U" and "Shining Diamond", Dino choreographed "Jam Jam".[9]Official track list[10]No.TitleLyricsMusicArrangementsLength1."Shining Diamond"WooziVernonS.CoupsKim Min-jeongWooziMasterKeyRishiMasterKeyRishi3:242.""Adore U"" (;Akkinda)WooziVernonS.CoupsBumzuWooziBumzuYeon Dong-geonWooziBumzuYeon Dong-geon3:073."Ah Yeah" (Hip-Hop unit)S. CoupsVernonWonwooMingyuCream DoughnutRishiCream DoughnutRishi3:294."Jam Jam" (Performance unit + Vernon)WooziHoshiDinoVernonWooziCream DoughnutCream Doughnut3:255."20" (Vocal unit)WooziWooziWon Yeong-heonWon Yeong-heonDong Ne-hyeong3:23Weekly chart performance for 17 CaratChart (2015-2023)PeakpositionJapanese Albums (Oricon)[11]46South Korean Albums (Gaon)[12]4US World Albums (Billboard)[13]8Year-end chart performance for 17 CaratChart (2015)PeakpositionSouth Korean Albums (Gaon)[14]47^ "Seventeen hopes to shine like diamonds with '17 Carat'". The Korea Herald. 26 May 2015. Retrieved 30 November 2016.^ "Adore U". Color Coded Lyrics. 29 May 2015. Retrieved 29 November 2016.^ "Seventeen hopes to shine like diamonds with '17 Carat". The Korea Herald. 26 May 2015. Retrieved 30 November 2016.^ "Seventeen hopes to shine like diamonds with '17 Carat'". The Korea Herald. 26 May 2015. 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Retrieved February 17, 2024.Retrieved from " 3The following pages link to 17 Carat External tools(link counttransclusion countsorted list) See help page for transcluding these entriesShowing 50 items.View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Main Page (links | edit)Pledis Entertainment discography (links | edit)List of 2015 albums (links | edit)2015 in South Korean music (links | edit)Seventeen (South Korean band) (links | edit)S.Coups (links | edit)Vernon (rapper) (links | edit)Wonwoo (links | edit)List of awards and nominations received by Seventeen (links | edit)Seventeen discography (links | edit)Love & Letter (links | edit)Joshua (singer) (links | edit)Seventeen TV (links | edit)17 carat (redirect page) (links | edit)Going Seventeen (links | edit)List of Seventeen live performances (links | edit)Teen, Age (links | edit)Al1 (links | edit)Bumzu (links | edit)Boys Be (EP) (links | edit)You Make My Day (links | edit)You Made My Dawn (links | edit)Jun (Chinese entertainer) (links | edit)List of Stray Kids live performances (links | edit)The8 (links | edit)An Ode (links | edit)Seungkwan (links | edit)Fallin' Flower (links | edit)Heng:gar (links | edit)Semicolon (EP) (links | edit)Your Choice (links | edit)Going Seventeen (web series) (links | edit)Not Alone (Seventeen song) (links | edit)Attacca (EP) (links | edit)Rock with You (Seventeen song) (links | edit)Woozi (links | edit)Hoshi (South Korean singer) (links | edit)Don't Wanna Cry (Seventeen song) (links | edit)Darl+ing (links | edit)Face the Sun (links | edit)Left & Right (Seventeen song) (links | edit)24H (EP) (links | edit)We Make You (links | edit)Hot (Seventeen song) (links | edit)Dream (Seventeen EP) (links | edit)BSS (band) (links | edit)FML (EP) (links | edit)Super (Seventeen song) (links | edit)Always Yours (album) (links | edit)Seventeenth Heaven (links | edit)View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Retrieved from " WhatLinksHere/17_Carat"This one is going to get a little gross.For now, you'll need a clear plastic bag, make sure there are no holes or this could get even messier, orange juice and water, biscuits and a banana, a bowl, a tea towel, and one leg of a pair of tights. But make sure you ask before you take it, nobody wants to wear one-legged tights.Put your food, water, and orange juice in the stomach. No, not that one. In the plastic bag stomach.Now get digesting. Give it a good squeeze and mush the food with the water and acidic orange juice, just like the stomach acid does to the food in your stomach. Transfer the food to the tights, that's the small intestine.Squeeze out the remaining liquid. This is all the nutrients your body needs to function properly and collect it all up in the bowl. Squash all the remaining moisture and nutrients out using the tea towel, just like the large intestine does.Well, okay, the large intestine doesn't use a tea towel, but it does absorb moisture and nutrients from the food.Cut a small hole in the end of the tights and squeeze out the remaining undigested food. And yes, that is exactly what it looks like, the results of the digestive system, poo.And that's that, you've modelled digestion from the stomach to the toilet.Who's hungry?Recently Updated PagesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? 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No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Related Searches study material, , past year papers, MCQs, Free, , Important questions, video lectures, Summary, Extra Questions, ppt, pdf , Previous Year Questions with Solutions, , shortcuts and tricks, mock tests for examination, Exam, Semester Notes, practice quizzes, Objective type Questions, Sample Paper, Viva Questions; Last updated at Dec. 16, 2024 by Teachoo The various parts of human digestive system are: The Digestion in Humans starts with the Ingestion of food. Ingestion means taking in - food is taken in by the person, and it reaches the mouth. (1) Mouth: The mouth or buccal cavity contains teeth, tongue and salivary glands. Teeth: The teeth are used to chew the food and break it into smaller pieces so that it is digested easily. Tongue: The tongue then moves the food around the mouth properly so as to mix food with the saliva. Salivary Glands: The salivary glands secrete saliva . It contains salivary amylase , an enzyme which helps in the chemical digestion of starch. Enzymes are biological substances that help in the progress of the reaction. (2) Oesophagus: It is also known as the food pipe . From the mouth, the food is pushed into the food pipe (oesophagus) with the action of the tongue. The walls of the oesophagus contract and expand to help the food move down the pipe into the stomach. This expansion and contraction movement is called Peristalsis. (3) Stomach: Due to the peristaltic movements of oesophagus, the food enters the stomach where a variety of juices act on it. The food is churned in the stomach for about 3-4 hours where a semi-solid paste is formed. The stomach wall contains three tubular glands in it. The glands present in this wall of stomach secrete gastric juices . The gastric juice contains hydrochloric acid , enzyme pepsin and mucus . Hydrochloric acid: It kills any bacteria which may enter the stomach along with food. Turns the gastric juice acidic in nature. Pepsin: The enzyme pepsin works in this acidic medium to digest the protein present in the food to convert it into smaller molecules. This protein digestion begins in the stomach. Mucus: Mucus helps protect the lining of the stomach from the acidic secretion of HCl. If mucus is not secreted the lining of the stomach will be degraded leading to formation of ulcers. (4) Small Intestine: This partially digested food in the stomach now moves forward into the small intestine . The exit of food from the stomach is regulated by sphincter muscle which releases it in small amounts into the small intestine. The small intestine is the largest part of the alimentary canal. It is called the small intestine because it is very narrow . The small intestine receives secretions of two glands : liver and pancreas. Liver : The liver secretes bile juice which is normally stored in the gallbladder and is a greenish yellow liquid . Bile performs two functions : It provides an alkaline medium for the acidic food coming from the stomach for the pancreatic enzymes to act on it Bile salts break down the fats present in food into smaller globules making it easy for the pancreatic enzymes to act and digest them. Pancreas : Pancreas secrete pancreatic juices which contain digestive enzymes like pancreatic amylase, trypsin and lipase. The enzyme amylase breaks down starch The enzyme trypsin digests proteins The enzyme lipase breaks down emulsified fats . The enzymes present in the intestinal juice complete the digestion of complex carbohydrates into glucose , proteins into amino acids and fats into fatty acids and glycerol . After digestion the molecules of food become very small and can then be absorbed by the walls of the small intestine and move further into our blood. The small intestine is the region for absorption of digested food because of the presence of villi . Villi are small fingerlike projections which increase the surface area of the small intestine thereby increasing the rate of absorption. From the bloodstream, the digested food reaches all parts of the body where it becomes assimilated as part of cells. The digested food which is not used by our body immediately is stored in the form of a carbohydrate called glycogen in our liver. (5) Large Intestine: The undigested food passes from the small intestine into a wider tube called the large intestine. Here, most of the water gets absorbed from the undigested food and thus the leftover part becomes almost solid. The solid waste is excreted through the anus as faeces or stool. The exit of the waste is called egestion or defecation. It is controlled by the anal sphincter. Dental Caries: Dental Caries or tooth decay is the damage that occurs to teeth which can potentially result in cavities, dental abscesses or even tooth loss . This begins as a result of plaque deposition on teeth. Plaque is a sticky deposit on teeth in which bacterial growth happens fast. This bacterial multiplication can convert the sugars in our food to acid. Enamel is the outermost, hard, white layer of a tooth This acid may cause enamel deterioration. The digestive system consists of organs like mouth, tongue, stomach, intestine, liver and salivary glands, which helps in obtaining energy from the food we consume in our daily life. Digestion helps us to get energy vitamins protein and necessary minerals. The food we consume cannot be utilized as it is by our body. It can easily absorbed by the body. This task is done by the digestive system.Nutrition The process by which living organism obtain and use food is known as nutrition. The human depends upon the plant for their food and energy, that is why they are caked as heterotrophs. Types of Nutrition Heterotrophic AutotrophicThis organism gets their food from another Organism (plant or animal). In this the organism produce their own food by itself by the process of Photosynthesis.Ex- humans, animalsEx-plant makes their own food by The Process of Nutrition in Human beingsIngestion- in this first stage food is taken in through the mouth.Digestion- in the next stage the conversion of complex food (taken in through the mouth) into a simple form occurs by the action of enzymes.Absorption- in this stage of the digestion, the digested food is absorbed into the blood stream.Assimilation- in this stage the absorbed food material is utilize by the body to provide energy or for growth and repair of tissue. Apart of the absorbed food is also stored for future use.Egestion- In the last stage of nutrition the undigested insoluble part of food is eliminated form of feaces.Also Read: Nutrition in Living OrganismHuman Digestive SystemThe digestive system in our body perform all the function related to the process of ingesting the food ,its digestion absorption , assimilation and egestion. The digestive system in humans consist of two parts. The alimentary canal and its associated glands.The process of digestion involves the alimentary canal and its many accessory glands and organ system. The process of digestion is quite simple because of the presence of Monogastric system. Monogastric system means humans have only one chambered stomach unlike some animals as cows and buffalos which have four chambered Stomach.Latest Update: UPCNET 2025 examinationThe human digestive system also controlled and regulated by nervous and circulatory system, with the help of enzymes nerves blood and other organs of the digestive system fulfil the task of digestion.Above paragraphs give a brief introduction of digestive system. In this article we will discuss in detail about the human digestive system.The figure given here shows the different parts of the human digestive system,Parts of Human Digestive SystemThe human digestive system consists of a group of organs which work together and convert complex food into essential nutrients and energy required for our body. Let us discuss the parts of digestive system one by one.Alimentary canal: It is along tube like muscular structure that runs from the mouth to the anus. It consists of organs like mouth pharynx, stomach, intestine rectum and anus.The food we eat passes through the alimentary canal and get digested gradually.The accessory glands: The glands which help in the digestion process but not the exact the part of alimentary canal. They stimulate the process of digestion by the enzymes which they release.The mouth- The alimentary canal start from mouth food is ingested through the mouth which opens in to a small chamber called mouth cavity or buccal cavity. The main function of mouth is to receive food and start digestion. Buccal cavity comprises of teeth, tongue and salivary glands.ABVMU application form official siteTeeth Teeth are the very important organ of Digestive System which help in digestion by cutting the food into small particle. The teeth play an Important role in mechanical digestion. Humans have two sets of teeth in their life the first set of teeth called as milk teeth normally appears between six or seven months of age. the milk teeth are also called as temporary or deciduous teeth. these are 20 in number and fall of between 6 and 12 year of age they are replaced with a new set of teeth, which remains for the rest of life therefore they are called permanent teeth.Teeth Structure and functionsAlso read: Tooth DecayIf you observe your teeth closely, you will find that not all of them are of the same shape and size. Some are broad others are narrow; some are sharp, other are flat.Humans have four types pf teeth IncisorsCaninesPremolarMolarsTypes of Teeth in adult Human beingsType of Tooth Function No. In Each JawTotal in both JawINCISORSBiting/ Cutting44*2= 8CANINESTearing22*2= 4PREMOLARSCrushing/ Grinding44*2= 8MOLARSCrushing/ Grinding66*2= 12As a small child you had 20 temporary teeth -8 incisor ,4 canines and 8 premolar. the molars only appear as permanent teeth later in life.If you count your teeth now you will find that there are about 28 teeth- 8 incisor ,4 canines and 8 premolar and molar on the other hand your parent and other adults have 32 teeth.The tongue- the tongue cavity also contains a thick muscular organ called the tongue. The tongue is covered with a mucus membrane, which keeps it moist all the time, it has taste buds that helps in distinguishing tastes. It also helps in moving the Food in the mouth. The tongue connected to the floor of mouth with the help of membrane called as frenulum. The main functions of tongue are as follows:Mastication of foodHelps in SpeechHelps in swallowing foodHelps to identify taste as it contains taste buds.The pharynx- The mouth cavity leads into the pharynx The Digestive System and Respiratory systems cross each other in the pharynx. The pharynx is the common passage for food and air from the mouth and nose to the throat. It is a wide muscular tube divided into their parts upper, middle and lower, only air passes through the upper part whereas both air and food pass through the middle part and only food passes through the lower part.Pharynx; Location & StructureThe Oesophagus (gullet)- The pharynx leads to the Oesophagus (also called the food pipe). The Oesophagus is a tube-like structure about 25 cm long, extending from the pharynx to the stomach. Food passes from the pharynx into the Oesophagus from where it moves forward by a series of muscular contractions and not by gravitational force. The muscles contract one after the other in a wave-like motion known as peristalsis.PeristalsisThe stomach The stomach is a J shaped muscular bag-like organ situated on the left side of the abdomen. It churns the food and mixes it with digestive juices and passes it on to the small intestine for further digestion. At the upper end of the stomach, lies the oesophagus; and its lower end opens into the small intestine. The stomach walls help in mechanical digestion. The inner wall of the stomach is lined by millions of gastric glands that secrete gastric juice This gastric juice is rich in hydrochloric acid and enzymes.The small intestine -The small intestine is a long, coiled tube that lies folded in the abdomen. It is divided into three parts: duodenum (anterior part), Jejunum (middle part) and ileum (posterior part). The inner wall of the small intestine has billions of finger like projections called villi (singular: villus) The villi increase the surface area for the absorption of digested food.Villi and MicrovilliThe large intestine, rectum and anus. The small intestine leads in the large intestine, which has a wider diameter bar as shorter in length. It has three parts: caecum, colon and rectum. Rectum is a short tube that opens to the outside through the anus.The Digestive System of human has following glands-Salivary gland There are three main pairs of Salivary glands that open into the mouth cavity. These glands secret saliva a liquid that helps in moistening the ingested food and in the digestion of carbohydrate. The saliva also acts as solvent and destroy germs.Liver-Liver is the largest gland inside our body it is located in the upper right side of the abdominal cavity is associated with the small intestine. Liver secrets bile: a greenish-yellow fluid that helps in breaking down large globules of fats into smaller droplets for chemical digestion. The liver also helps in regulating the blood sugar level and in controlling the transport and storage of carbohydrates.Pancreas -Pancreas is another gland associated with the small intestine, it secretes pancreatic juice, which helps in digestion. Pancreatic juice contains many enzymes such as the sand digesting amylase, the protein-digesting trypsin and the fat digesting lipase.The digestive organs chemically act upon the food you eat and convert it into molecules that can be absorbed by your body. The process of converting complex food in to simple absorbable form is called digestion.In the mouth the food is chewed by the teeth, while the food is being chewed it is softened by the saliva secreted by the salivary glands, Saliva contains an enzyme called salivary amylase or ptyalin, which acts on starch a carbohydrate and breaks it into maltose Starch (salivary amylase) MaltoseThe softened, slightly digested food becomes a semi-solid ball called bolus which is swallowed.Food on the pharynx and the oesophagusThe food is swallowed into the pharynx and then passes through the oesophagus. The muscles of the oesophagus push the food towards the stomach, No digestion takes place in the pharynx and the oesophagus .The muscles of the stomach wall contract rhythmically, crushing and mixing the food with gastric juice, Gastric juice kills bacteria and helps in the digestion of proteins, It contains two enzymes pepsin and renin .Pepsin Pepsin changes large protein molecules into smaller protein molecules called proteoses and peptones.protein (pepsin) proteoses and peptonesRennin Rennin changes the milk protein called casein into Paracasein, which is an insoluble curd.Casein (rennin) ParacaseinThe food moves out of the stomach into the intestine in the form of a thick paste called chyme.Different Enzymes and their FunctionsPartEnzymeFunctionsMOUTHSalivary AmylaseChanges starch in to maltoseSTOMACHPepsinChanges Proteins into Proteoses and PeptonesRenninChanges casein into paracasein (insoluble curd)LIVERBile Juice (No Enzyme)Emulsification of fatPANCREASLipaseChanges fats into fatty acids and GlycerolTrypsinChanges Proteins, proteoses, and peptones in to polypeptidesSMALL INTESTINEErepsinChanges Peptones and peptides into amino acidsMaltaseChanges maltose into GlucoseSucraseChanges Sucrose into glucose and FructoseLactaseChanges lactose into glucose and galactoseFurther digestion of the food (chyme) takes place in the upper part of the -small intestine. Small intestine is the largest part of the alimentary canal. it is about 6.5 metres long coiled tube. Bile from the gall bladder and pancreatic juice from the pancreas are received here.Bile -Bile is made in the liver and stored in the gall bladder. Although it does not contain any enzyme. bile helps in digestion by breaking down the fats into tiny droplets for the enzymes to act upon. It also provides an alkaline medium for the action of the enzymes in pancreatic juice, trypsin and lipase.Trypsin acts on proteins, proteoses and peptones and changes them into polypeptides.Proteins, proteoses and peptones(trypsin) polypeptidesThese are further broken down into amino acids smaller units of proteins).Lipase acts on fats to change there into fatty acids and glycerol.Fat (lipase) fatty acid and glycerideSugar (carbohydrates) are also digested in the small intestine as follows:Maltase changes maltose into glucose.Sucrase changes sucrose into glucose and fructose, and lactase changes lactose into glucose and galactose.Sucrose (sucrase) glucose and fructoseLactose (lactase) glucose and galactoseThe small intestine not only digests the food absorbs it. The villi in the small intestine contains blood capillaries. The digested food passes through the thin walls of these blood capillaries and enters the blood stream. This is called absorption.Some food cannot be digested and is therefore not absorbed in the blood. This food moves down to the large intestine where the excess water in it is reabsorbed. The undigested food forms faeces, which moves to the rectum and is passed out at regular intervals through the anus. This is called egestion.After digestion, the molecules of food that we eat converted in its smallest particles. These particles can pass through the walls of the small intestine and diffused into our blood, This is called Absorption.The main absorption of food takes in to the small intestine but some absorption occurs in other parts of Alimentary canal as mouth and large intestine. The small intestine has the special adaptation as Villi and Microvilli. These adaptations help in the faster absorption of food.All the absorbed nutrients are not used up, immediately by the body. So, they are changed into various forms that can be stored until they are needed. This is called assimilation.Glucose is converted into glycogen and stored in the liver. When required by the body, the liver converts glycogen into glucose.Excess of glucose is also converted into fat and stored in the adipose tissues. Fatty acids either provide energy or are stored under the skin as fat.Amino acids are used for the synthesis of proteins. Excess amino acids are converted into urea which is removed from the blood by the kidneys in the form of urine.Digestive System of human got infections from parasites of intestine like tapeworm, roundworm, threadworm, etc.IndigestionYou may have sometimes experienced pain or burning in the upper part of your stomach. Or, else you may felt discomfort due to the stomach being too full. The cause of both conditions could be indigestion.Common symptoms of indigestion:Abdominal pain, heart burnBloating (feeling of a full stomach)Excessive gasNausea or vomitingBurning sensation in the stomachCauses of indigestion:Eating very spicy or oily foodLying down soon after mealsOvereatingDrinking too much water between mealsDrinking alcohol and sometimes cold drinks with meals Indigestion can be prevented by maintaining healthy eating habits, eating smaller but regular meals, eating properly cooked food and avoiding fried and oily foods. Biology is the study of living things. It is broken down into many fields, reflecting the complexity of life from the atoms and molecules of biochemistry to the interactions of millions of organisms in ecology. This biology dictionary is here to help you learn about all sorts of biology terms, principles, and life forms. 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