

DIGESTION Cognitive Map

	Structures	Chemicals	What Happens Here (be specific about food types, process, movement, terminology)
MOUTH	<p>uvula hangs down from soft palate to close off respiratory tract when swallowing so food goes into esophagus</p> <p>3 pairs of salivary glands: (parotid, submandibular, and sublingual) secrete 1000-1500 mL of saliva/day (mostly water)</p>	<p>salivary amylase is an enzyme in saliva that begins digesting starch & complex CHO (carbohydrates)</p>	<p>Teeth are used to begin the mechanical breakdown of all food in the mouth: 20 baby (deciduous), 32 permanent teeth – (crown is made of dentin, root contains pulp cavity)</p> <p>Saliva is used to moisten the food and get it ready for swallowing (deglutition) – movement into the esophagus. Saliva also has an enzyme that begins chemical digestion of carbohydrates (begins breaking apart polysaccharides).</p>
STOMACH	<p>rugae = wrinkles in the mucosa</p> <p>4 regions: fundic, cardiac, body, and pyloric</p>	<p>mucous cells secrete: mucous</p> <p>parietal cells secrete: hydrochloric acid and intrinsic factor</p> <p>chief cells secrete: pepsinogen</p>	<p><i>Mechanical digestion via the contraction of the 3 stomach muscles.</i></p> <p><i>Chemical digestion of complex carbohydrates and proteins.</i></p>
PANCREAS (accessory organ)	<i>Pancreatic duct</i>	<p>pancreatic juice contains: trypsinogen, chymotrypsinogen, carboxypeptidase: digests proteins</p> <p>pancreatic lipase: digests lipids</p> <p>pancreatic amylase: digests carbohydrates</p> <p>bicarbonate: neutralizes HCl from stomach</p>	<p><i>No digestion occurs here. Digestive enzymes are produced here and released into the small intestines.</i></p>

Turn the page over for more!

	Structures	Chemicals	What Happens Here?
LIVER & GALL BLADDER (accessory organs)	<i>Liver: Right Lobe, Left Lobe, Quadrate Lobe, Caudate Lobe</i> <i>Gall Bladder: Cystic and Bile ducts</i>	bile is made by the liver, and stored in the Bile contains: <i>bile acids (salts) and bilirubin</i>	<i>No digestion occurs here.</i> <i>Production of bile in the liver and storage and concentration of bile in the gall bladder</i>
SMALL INTESTINE	3 regions: <i>Duodenum, Jejunum, Ileum</i> villi = <i>lined with columnar cells, contains capillaries and the lacteal</i> 2 kinds of movement: <i>Peristalsis and segmentation</i>	<i>Various peptidases break down proteins.</i> <i>Lipase breaks down lipids.</i> <i>Lactase, maltase, and sucrase breakdown the disaccharides lactose, maltose, and sucrose, respectively.</i>	Both chemical and mechanical digestion continue here. Absorption = <i>Monosaccharides and proteins are first absorbed into the columnar epithelial cell than move into the capillary within the villi.</i> <i>Lipids are absorbed into the columnar cell via the micelles. Once in the cell they are repackaged and then absorbed into the lacteal instead of the capillary.</i>

LARGE INTESTINE (colon)	regions: <i>Cecum (with appendix)</i> <i>Colon: Ascending, Transverse, Descending, and Sigmoid</i> <i>Rectum</i> <i>Anus</i> taenia coli = strips of muscle that allows the colon to contract lengthwise haustra = pouches of the large intestine wall	<i>No digestive enzymes present</i>	<i>The only digestion occurring is the result of bacteria breaking down particles that are system cannot.</i> <i>Some water and electrolytes are absorbed and nutrients such as vitamins B and K synthesized from the bacteria.</i> <i>Mass peristalsis and defecation of fecal matter.</i>
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