

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: <i>mucous</i></p> <p>parietal cells secrete: <i>hydrochloric acid and intrinsic factor</i></p> <p>chief cells secrete: <i>pepsinogen</i></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)	<p><i>Pancreatic duct</i></p>	<p>pancreatic juice contains:</p> <p><i>trypsinogen, chymotrypsinogen, carboxypeptidase: digests proteins</i></p> <p><i>pancreatic lipase: digests lipids</i></p> <p><i>pancreatic amylase: digests carbohydrates</i></p> <p><i>bicarbonate: neutralizes HCl from stomach</i></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)	<p><i>Liver: Right Lobe, Left Lobe, Quadrate Lobe, Caudate Lobe</i></p> <p><i>Gall Bladder: Cystic and Bile ducts</i></p>	<p>bile is made by the liver, and stored in the</p> <p>Bile contains: <i>bile acids (salts) and bilirubin</i></p>	<p><i>No digestion occurs here.</i></p> <p><i>Production of bile in the liver and storage and concentration of bile in the gall bladder</i></p>
SMALL INTESTINE	<p>3 regions: <i>Duodenum, Jejunum, Ileum</i></p> <p>villi = <i>lined with columnar cells, contains capillaries and the lacteal</i></p> <p>2 kinds of movement: <i>Peristalsis and segmentation</i></p>	<p><i>Various peptidases break down proteins.</i></p> <p><i>Lipase breaks down lipids.</i></p> <p><i>Lactase, maltase, and sucrase breakdown the disaccharides lactose, maltose, and sucrose, respectively.</i></p>	<p>Both chemical and mechanical digestion continue here.</p> <p>Absorption =</p> <p><i>Monosaccharides and proteins are first absorbed into the columnar epithelial cell than move into the capillary within the villi.</i></p> <p><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></p>

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