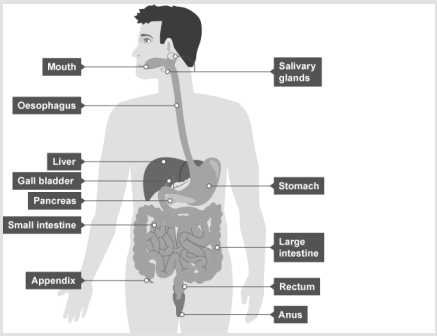
Biology B5e-h Cheat Sheet

by boojiebaba via cheatography.com/25926/cs/7036/

Functions

salivary glands	produce saliva that moistens food and contains carbohydrase enzymes
stomach	produces hydrochloric acid and protease enzymes
pancreas	produces carbohydrase, protease and lipase enzymes
liver	produces bile
gall bladder	stores bile
small intestine	produces carbohydrase, protease and lipase enzymes, and absorbs digested food
large intestine	absorbs water

Positioning



Physical vs Chemical Digestion

Physical digestion breaks food into smaller pieces by:
-chewing in the mouth
-squeezing in the stomach This is done so that:
-food can pass more easily through the digestive system
-a larger surface area is provided for enzymes to work on

Chemical digestion uses digestive enzymes to breakdown large food molecules into smaller ones so they can be absorbed into the blood. The products of chemical digestion are absorbed into the body in the small intestine:
-sugars and amino acids pass into the bloodstream by diffusion
-fatty acids and glycerol pass into the lymph

Enzymes

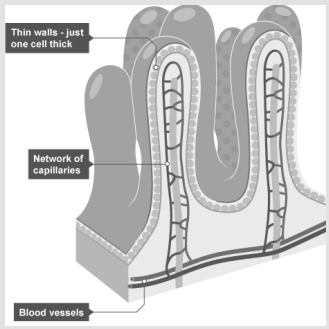
enzyme	breaks down...	into...	in the...
carbohydrase	starch	sugar	mouth + small intestine
protease	protein	amino acids	stomach + small intestine
lipase	fat	fatty acids + glycerol	small intestine

Stomach acid provides the correct pH for stomach protease to function properly.

Breakdown of starch

1. starch --> maltose
2. maltose --> glucose

Small intestine adaptations



-it has a thin lining
-it has a good blood supply
-it is very long and has a large surface area
-villi provide a large surface area for absorption to take place
-villi have a rich supply of blood vessels to carry away absorbed molecules.

pH differences

Why is the pH in the mouth and small intestine alkaline, but the pH in the stomach is at acidic levels?

> The enzymes there work at different optimum pH levels.

Bile purpose

What is the purpose of bile?

> To lower the pH of food as it moves from the stomach to the small intestine.

How does bile (from the gall bladder) improve fat digestion?

> It emulsifies (breaks down) fats in the small intestine. This provides a larger surface area in which the lipases can work.

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