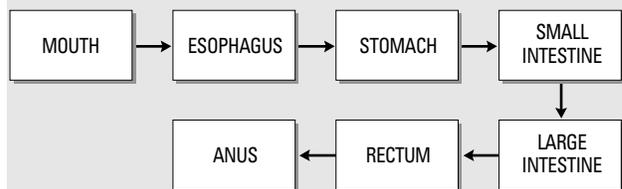


## Section 6.2: Review Answers

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1. Flow chart showing pathway of food through the digestive tract:



2. The salivary glands, liver, gall bladder, and pancreas are considered accessory organs. They add secretions involved in digestion to the digestive tract. However, food does not pass through these organs.
3. There would be significantly less surface area available for chemical digestion. This would slow down the action of enzymes (reduce the efficiency of digestive enzymes).
4. Several reasons can be given. First, most enzymes are secreted into the small intestine where the pH is about 8. These enzymes would be denatured by the acid in the stomach. Secondly, in the intestine, bile from the liver and gall bladder storage depot emulsifies fat, increasing the surface area for chemical digestion. Fat in the stomach has not been emulsified. Thirdly, since the small intestine is much longer than the stomach, there is more time for enzymatic digestion to occur as food is moved along its length.
5. The secretions from all three organs are released into the duodenum. The liver produces bile that contains bile salts that emulsify fats. The gall bladder concentrates and stores bile and releases the concentrated solution when chyme arrives from the stomach. The pancreas produces many enzymes that aid chemical digestion. The pancreas also secretes bicarbonate ions that neutralize the acidic chyme, changing the pH to about 8.
6. The presence of villi and microvilli increase the surface area of the intestinal wall. Capillaries and lymph vessels are found within each villus. These observations support the notion that it is well adapted for absorption of nutrients.