

# **Student Essay on The Digestive System**

## **The Digestive System**

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# Essay

The human digestive system, like those of other vertebrates, is built around an alimentary canal - a one way tube that passes through the body. The function of the digestive system is to convert foods into simple molecules that can be absorbed and used by the cells of the body.

Food enters the mouth, where the work of the digestive system begins. Chewing, which takes place in the mouth, seems simple enough - teeth tear and crush the moistened food to a fine paste until it is ready to be swallowed. But there is a great deal more than that. Teeth are anchored in the bones of the jaw by a network of blood vessels and nerves that enter through the roots of the teeth. The surfaces of the teeth, which are much tougher than ordinary bone, are protected by a coating of mineralized enamel. Teeth do much of the mechanical work for you.

After the bolus is swallowed, it passes through the esophagus, or food tube, into the stomach. Did you know that food can travel through the esophagus whether you're sitting up, lying down, or standing on your head. Even in astronauts, food passes through the esophagus into the weightlessness of space. The reason is that food is moved along by contractions of smooth muscle surrounding the esophagus. Known as the peristalsis, these contractions, which occur throughout the alimentary canal, squeeze the food through the 25 centimeters of the esophagus.

Food from the esophagus empties into a large muscular sac called the stomach. A thick ring of muscle, known as the cardiac sphincter, closes the esophagus after food has passed into the stomach, preventing the contents of the stomach from moving back into the esophagus. The size of the stomach enables you to eat a few large meals a day, rather than having a nibble at a time. Its walls produce a powerful combination of enzymes and strong acids, and contractions of its smooth muscles thoroughly mix the food as you swallow.

The duodenum is the first of three parts of the small intestine, and its the place where most of the chemical work of digestion takes place. As a chyme enters from the stomach, it is mixed with enzymes and digestive fluids from the other accessory digestive organs and even from the lining of the duodenum itself.