

The digestive system case study example

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The Digestive Tract

Part I: Parts of the Digestive Tract/System

Part II

Section A

The Mouth

The digestive tract starts at the mouth. This is the first step of digestion.

When one takes the first bite, food begins the digestion process through chewing. Chewing breaks down the food into more soluble pieces. This also increases the surface area for which the digestive enzymes can work on the food in the latter stages of the digestion process.

Oesophagus

The oesophagus is located in the throat near the windpipe (trachea). This is the second stage of the digestion process. This part receives food from the mouth.

Stomach

The stomach is located on the upper abdomen, on the left side. This is the third stage of the digestive process. It receives food from the oesophagus.

The stomach receives food from the oesophagus through a muscular valve known as the lower oesophageal sphincter.

Small Intestine

This part of the digestive tract comprises three major segments, namely, the duodenum, jejunum and the ileum. The small intestine is one the largest organs in the body, it is 22 feet long and is mainly muscular.

Pancreas

This is located behind the stomach, across the back of the abdomen. It is about 6 inches in length. However, the head of the pancreas is connected to the duodenum, on the right side of the abdomen.

Liver

The liver is reddish brown in colour and is located on the right hand side of the stomach. It is well protected by the rib cage and weighs 3 pounds.

Gall Bladder

This is the store for the bile that is used in the digestion process in the stomach. It is located on the right hand side of the rib cage just behind the liver.

Large Intestine (Colon)

This part of the digestive tract is 6 feet long and connects the small intestine to the rectum. It has five distinct sections. Namely;

- The Cecum
- The Ascending (Right) Colon
- The Transverse (Across) Colon
- The Descending (Left) Colon
- The Sigmoid Colon

Rectum

This is a chamber that links the colon to the anus. It is approximately 8-inches in length. It is what indicates to an individual the need to evacuate stool.

Anus

The final part of the digestive tract or system is the Anus. It is made up of two anal sphincters and pelvic floor muscles. There is a special lining in the upper anus that is specialized for detection of rectal content.

Appendix

The appendix is located in the right lower section of the abdomen. It is a small pouch that looks like a finger. No one knows the true function of the appendix since its removal has no effect on the individual's health. However, it has been found to store and protect good bacteria that enhance the process of digestion.

Section B

I would remember the locations of the organs by reviewing the picture above and memorizing the location of the organs by having the image clearly in my mind.

Part III: Processes in the different parts of the Digestive Tract

Mouth – Chewing

This is the process of breaking down food into smaller pieces to enhance absorption and increase surface area for action by digestive enzymes. It involves the use of the teeth.

Oesophagus – Peristalsis

The contractions and relaxation of muscles that line the oesophagus. It pushes food into the stomach while at the same time pressing the food into a steady flow that the stomach can handle.

Stomach – Storage and Breakdown of Food

The stomach stores food from 3 to 4 hours and breaks down food through

the help of enzymes and acids that turn the food into a consistent fluid state.

Small Intestine – Breakdown of food, absorption and motility

Food is further broken down by aid of enzymes from pancreas and liver.

Absorption of nutrients majorly takes place here and motility, the movement of food from the small to large intestine occurs.

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