

4. The digestive system

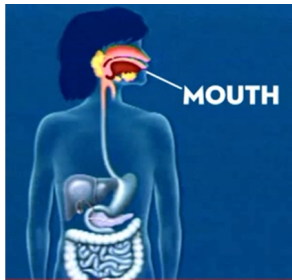
4.1 The organs in the digestive tract

4.1.2

The anatomy of the digestive tract

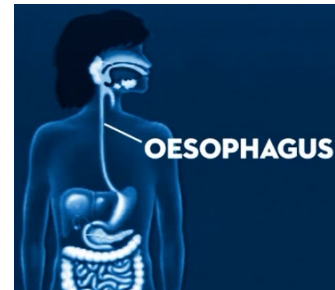
THE MOUTH

The digestive tract is simply all the organs that are instrumental in digestion. It starts with the mouth, which is sometimes called the **buccal cavity**.



The mouth has three main components: **teeth**, the **tongue** and **saliva**. Teeth are hard structures. The tongue is a muscle. Saliva is the liquid inside the mouth. It is a chemical substance that contains enzymes.

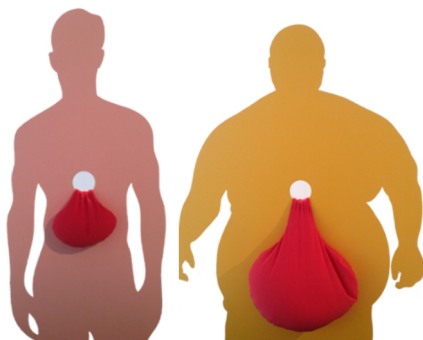
The food we eat starts to be transformed in the mouth. Once it leaves the mouth, food goes into a tube called the **oesophagus**, which is about 25 centimetres long.



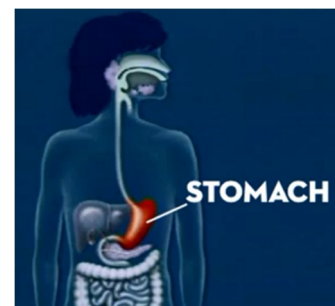
A muscle at the bottom of the throat opens and closes the oesophagus. This muscle is called a **sphincter**, which either allows or prevents food from passing through.

THE SPHINCTERS

There are several sphincters in the digestive tract. For example, there is another sphincter at the end of the oesophagus to control the entrance to the stomach.

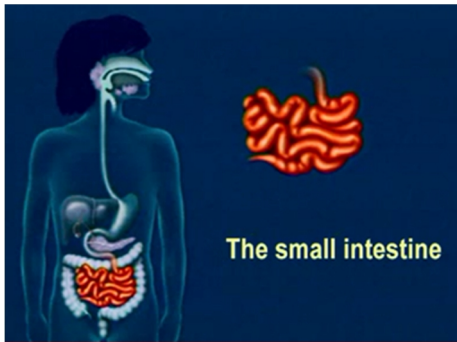


The stomach is a J-shaped muscular pouch that expands when it receives food and drinks. Its average size is 1.3 litres, but a heavy beer drinker's stomach can reach a volume of 4 litres!



As you may have guessed, there is another sphincter at the bottom of the stomach to regulate the movement of food towards the small intestine. It is called the **pylorus**.

THE INTESTINES

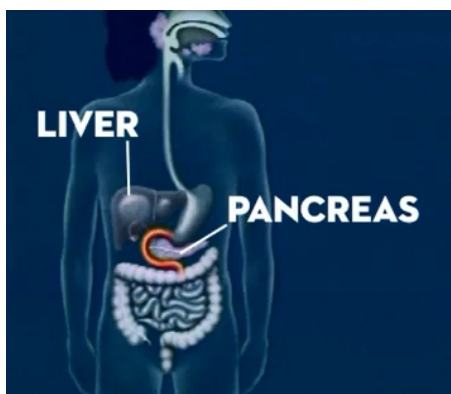


The small intestine is a narrow, coiled tube that is more than 5 metres long. To put this in context, if stretched out vertically, it would be equivalent to the height of a giraffe!

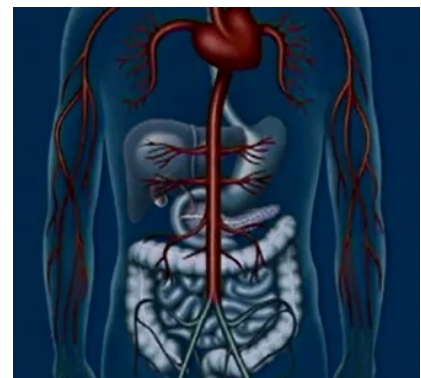


The small intestine can be separated into three parts: the **duodenum**, the **jejunum** and the **ileum**.

The **duodenum** is the first part of the small intestine, but since it is closely related to the liver and pancreas, it is often treated separately.



The liver and pancreas are considered **accessory digestive glands** because, although they play an important role in digestion, food never actually goes through them. It is mainly in the small intestine that nutrients move into the blood to reach the body's cells.

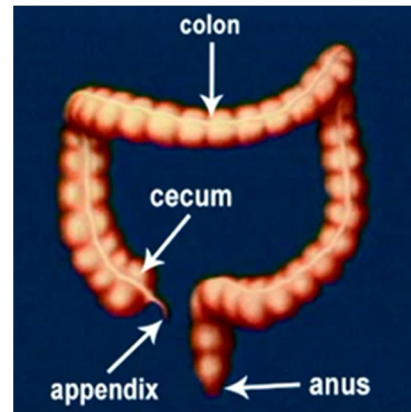


The last organ in the digestive tract is the large intestine. It is about 1 metre long.

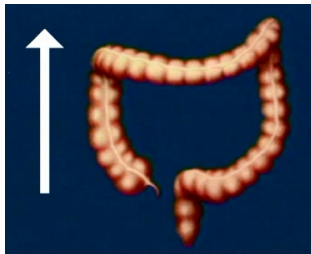
Nutrients first pass through another pouch, located between the small and large intestines.

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This pouch is called the **cecum**. It has a small appendage, called the **appendix**. The appendix does not participate in digestion, but may become infected. Such an infection is called appendicitis. The large intestine is sometimes also called the **colon**. Just like the oesophagus and stomach, it also has a sphincter at the end. Most of the time this sphincter is closed, except when stools are evacuated through the **anus**.



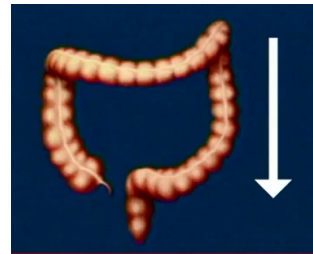
The colon is also divided into three parts: the **ascending colon**, the **transverse colon** and the **descending colon**.



Ascending colon



Transverse colon



Descending colon

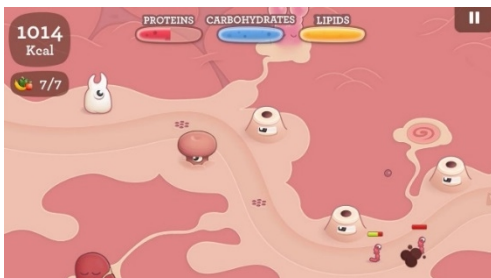
THE ORDER OF THE ORGANS



This course is also associated with a game called TUBIX. In this game, you need to place the organs of the digestive tract in the correct order. The mouth comes first, the oesophagus goes after the mouth, but before the stomach, and so on.

You can play TUBIX at various levels. The higher levels look at the anatomy of the digestive tract

in more detail. In some cases, you are required to place various sphincters, such as the **inferior oesophageal sphincter** at the end of the oesophagus.



In DIGESTIX, the order in which you place the digestive pieces matters as well. If you do not start with the teeth for example, you will not manage to transform food into fragments.

The anatomy of the digestive tract is complex and, in addition to the main organs, we also need to consider the accessory digestive glands.