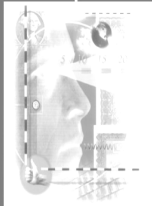


6th – Life Process Nutrition



The cell is the smallest unit of a living organism. It has a structure of its own and performs many functions. Group of cells make a tissue. Tissues collectively form organs. The different organs in turn, working together for a certain major activity, form an organ system. Human, and animal, bodies are made up of many such organ systems which carry out different functions.

The following are the main organ systems of the human body:

- Digestive system
- Respiratory system
- Circulatory system
- Nervous system
- Excretory system
- Skeleton system
- Reproductive system

The Digestive System: Food contains different kinds of substances. These substances are not in the same form as needed by our body. They need to be converted into soluble particles, is called digestion. The human digestive system consists of the following organs:

The Mouth: The mouth is also known as the oral cavity. It contains teeth, tongue and salivary glands. The process of digestion begins in the mouth.

The Teeth: Teeth start growing before we are born, but they begin to appear from the gums, at about six months of age. All of us have two sets of teeth in our lifetime. The first set of teeth consists of 20 teeth (10 in each of the upper and lower jaws). These appear when a child is in the age group of one to two years. These teeth are called milk teeth. These are 'temporary' teeth. These teeth are replaced by another set of teeth, which are 32 in number. They are 'permanent teeth' and remain with us till old age. Teeth are hard structures that have two parts—the crown and the root. The crown is the visible part of the tooth. The root is inside the gums and is attached to a socket in the jawbone. The outer white part of the tooth is made of enamel, the hardest substance in the body. Teeth are used to bite off large pieces of food. They then crush, and grind, the food into smaller pieces. There are four types of teeth in our mouth. These are:

Incisors, Canines, Premolars and Molars.

The last pair of molar teeth is called wisdom teeth. These grow when a person is nearly 20 years old.

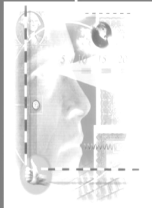
The Tongue: It is a muscular organ present inside the mouth. The tongue helps us

- To know the taste of food (salty, bitter, sour or sweet)
- In swallowing the food.
- In mixing the food with the saliva produced by salivary glands.
- In our speech.

The tongue, thus, helps us not only in tasting things, but also in speaking and singing. Tiny bumps, called taste buds, send messages to the brain, which, in turn, tell us the taste of the food.

• **The Salivary Glands:** There are three pairs of salivary glands in our mouth. They produce a watery fluid, called the saliva. It helps to moisten and soften the food so that it can be easily swallowed. An adult secretes about one litre of saliva a day. The salivary glands may sometimes get stimulated simply by the sight, or smell, of food. Remember when you see some delicious food, the wetness, in your mouth, is due to the saliva secreted out by the salivary glands.

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The Food Pipe: Food pipe, also called the oesophagus, is a tube about 30 cm in length. It is the between...the mouth, and the somach. It acts as a passage for the food to slide down from the mouth, to bag-like structure, called the stomach. This pipe is a muscular organ. The contraction of its muscular is responsible for pushing the food down in to the stomach.

Stomach: The stomach is a bag-like structure. Here, the food is churned and changed into a paste-like substance. In the stomach, the food gets mixed with the gastric juice, secreted by the gastric glands of the stomach. Gastric juice helps in the digestion of food. The food generally stays in the stomach for about 2-3 hours. From here the food goes into the small intestine.

Liver and Pancreas: These are two associated glands which greatly help the process of digestion. The liver is our body's- largest gland It is dark brown in colour and weighs about one and a half kilogram. It secretes brownish-green fluid, called the bile juice. The pancreas secretes the pancreatic juice which contains certain enzymes that help in the digestion of food

Small Intestine: The small intestine is the longest part of the digestive system. It is a highly' coiled tube nearly 3 cm in diameter and 7 m in length. The food gets mixed, with the bile juice and the pancreatic juice, in the small intestine. Both Thèse help in digestion. The small intestine absorbs nutrients from the digested food and takes them to all the cells of the body, through the blood capillaries. The food nutrients, thus, provide energy to all parts of the body the food that remains undigested and unabsorbed, and then enters the large intestine.

Large Intestine: The lower end of the small intestine extends into a wide tube-like structure' called the large intestine. It is usually one and a half metre-long and 7 cm - diameter. Unlike the small intestine, the large intestine helps in absorbtion of water from the undigested food _which is then pushed out as waste.

Anus: The undigested, semi-solid waste product is eliminated from the body, through an external opening, called the anus.

Learning With Innovation.....