

CHAPTER – 11

DIGESTION

Food

Food is necessary to sustain life. The food is utilized at the cellular level. Most of the food we eat, however, is not suitable for cellular utilization until it is mechanically and chemically reduced to forms that can be absorbed through the intestinal wall and transported to cells by the blood.

Science Titbits

Inflammation of the parotid is called parotiditis or parotitis. The most common type of parotitis, caused by a viral infection, is mumps.

Teacher's point

Teacher would guide to students to list structural features that increase surface area of small intestine.

Science Titbits

Mucus is secreted in large amount by duodenal glands, intestinal glands, and goblet cells. The mucus provides the wall of intestine with protection against

the irritating effects of acidic chyme and against the digestive enzymes that enter the duodenum from the pancreas.

Science Titbits

Lipoproteins are referred to as high or low-density lipoproteins. A lipoprotein with high lipid content has a very low density (LDL), whereas a lipoprotein with high protein content has a relatively high density (HDL) Chylomicrons, which are made up of 99% lipid and only 1% protein have an extremely very low density.

Did you Know?

The appendix contains a small amount of mucus associated lymphoid tissue which gives the appendix an undetermined role in immunity. However, the appendix is known to be important in foetal life as it contains endocrine cells that release biogenic amines and peptide hormones important for homeostasis for during early growth and development. Appendicitis is an inflammation of the vermiform appendix and usually occurs because of obstruction of, the appendix. An appendectomy is removal of the appendix.

Accessory Glands

The accessory glands of the digestive system are liver, gall bladder and pancreas.

Science Titbits

Some bacteria in the large intestine (colon) Synthesize vitamin K, which is passively absorbed in the colon, and breakdown a small amount of cellulose to glucose. Gases called flatus (meaning blowing) are produced by bacterial actions in the colon.

Teacher's Point

Teacher would guide the student to relate hepatitis and jaundice with the function of liver.

Did you know?

In the early 1980's an Australian medical resident named Barry Marshall firmly believed that bacteria play a role in ulcers, but physician have always blamed the open B sores on stress or prescription drug side effects. Marshall set out to prove the bacterial link. One morning in 1984, he walked into his lab, stirred a beaker full of beef soup and *Helicobacter pylori* and gulped the concoction. After five days he began to vomit. Marshall and others demonstrated that *Helicobacter pylori* is responsible for 70% of ulcer Marshall and his co-worker Robin Varan were awarded Nobel prize in 2005.

Science, Technology and Society Connections

- ◆ **Relate ulcer, food poisoning and dyspepsia with eating habits of the society.**

Solution: See Q #44 from (Extensive Questions).

Activity

1. Tests to locate buds on tongue for detection of salt, sweet, sour and bitter taste.
2. Microscopic observation of the villi, liver and pancreas prepared slides.

