

Cat Digestive and Urinary Systems

Student Notes - Answer Key

Digestive System - is comprised of the **alimentary canal** and **accessory glands**.

The alimentary canal consists of:

- **Lips**
- Mouth
- **Teeth**
- Tongue
- **Esophagus**
- Stomach
- Small intestine
- **Large intestine**
- Anus

The accessory glands are the:

- Liver
- **Pancreas**
- Salivary glands

All the organs work to **process** the food a cat eats. The intestines work to **extract** and **absorb** the nutrients and eliminate the wastes.

Mouth

- Doorway to the **digestive** system—the opening through which it takes in food
- Its lips **hold in food and retain saliva**
- **Tongue** is rough and covered with hook-like appendages
- Uses its tongue to lap up liquids and to scrape food off bones

Teeth

Cats have **30** permanent teeth. A first set of 26 teeth, the **milk teeth**, fall out when the cat is between five and seven months old and are quickly replaced by the permanent teeth. Its permanent teeth are made up of:

- **12** incisors
- **4** canines
- **10** premolars
- **4** molars

The ability to hold and tear food is essential to a cat, which is why a cat's canines are so well developed and its molars are so sharp.

The crown is the part of the tooth **visible above the gums**. Below the gums lies the **root**. At least half of each canine tooth grows below the gum line. **Enamel** covers the crown and neck of each tooth. Inside each tooth is the **pulp**, which houses the nerves and blood vessels. Cats have thin enamel that leads to cavities. The teeth also have shallow roots that lead to easy tooth loss if tartar builds up and gingivitis becomes severe.

Salivary Glands - The salivary glands are located **behind the jaw**. Their function is to **moisten food** as an aid in swallowing and digesting.

Pharynx - The pharynx is a tube shared by the **digestive** and **respiratory** systems. Food enters the **pharynx** from the mouth through the action of the tongue and leaves through the **esophagus**. During the act of swallowing the **epiglottis** closes over the trachea to prevent food from entering it.

Esophagus - The esophagus is a strong elastic tube that **carries food** from the **pharynx** to the **stomach**.

Stomach

- A **sac-like organ** with elastic walls
- Has a comparatively large capacity for food storage
- In the stomach, some of the **early stages of digestion** take place
- Acid liquids help to **break down** proteins
- **Pylorus**, a muscular valve that moves the food into the small intestine

Small Intestine

- **Duodenum** is the first section of the small intestine
- Secretes digestive **enzymes**
- Enzymes break down **proteins** and **carbohydrates**
- Bile and pancreatic juices enter the intestine here
- Together, these substances break down or **digest food**
- Once these substances have broken down the food, it can be **absorbed** into the body
- What is left over is passed on to the **large intestine**.

Large Intestine

- Purpose is to **absorb moisture** out of the waste products and...
- **Pass** the waste products out of the body
- **Rectum** is the **last segment** of the large intestine - very short and is located entirely within the pelvis
- **Anus** is the muscular closure at the very end of the large intestine

Liver

- **Largest** organ in the cat's body
- Situated just behind the diaphragm and mostly on the **right** side of the body
- Functions are to:
 1. **filter blood**
 2. **destroy toxins within the blood**
 3. **produce many proteins**
 4. **manufacture bile**
 5. **store sugar in the form of glycogen**
- **Bile** is produced to aid in the digestion of fats. Between meals, it is stored in the gall bladder and moves through the bile duct to the small intestine after a meal.

Pancreas

- Located near the stomach and is attached to the small intestine
- Makes digestive juices called **enzymes**
- Contains the **Islets of Langerhans** (These small glands produce insulin that is essential in utilization of blood sugar)
- **Diabetes** is a condition that occurs when there is a lack of **insulin**

The Urinary System - The important organs:

- Kidneys
- Ureters
- Bladder
- Urethra

The kidneys are located on either side of the body in the lumbar region (between ribs and pelvis). Blood is filtered through the **kidneys** and the liquid waste product is called **urine**. Urine is passed through the **ureters** to the **bladder** where it is stored. The urine is then discharged through the **urethra**, a tube connecting the bladder to the exterior of the body.