

Goat Anatomy Student Notes - Answer Key

Anatomy

Anatomy is the science of the structure of animals.

Physiology is the science that deals with the functions of the living organism and its parts.

Dorsal pertains to the upper surface of the animal

Ventral relates to the lower and abdominal surface

Anterior (cranial) applies to the front or head

Posterior (caudal) pertains to the tail or rear

Internal Goat Anatomy

Heart

- The goat heart has **four** chambers
- The **heart** is the primary organ that pumps blood continuously through the blood vessels in the body
- **Right atrium**: collection chamber for deoxygenated blood
- **Right ventricle**: pumps deoxygenated blood to the lungs
- **Left atrium**: collection chamber for oxygenated blood from lungs
- **Left ventricle**: pumps oxygenated blood to the body

Four stomach compartments of ruminant animals

1. Rumen

- a. Largest of the **four** compartments
- b. Capacity of **3** to **6** gallons
- c. Also known as the **paunch**
- d. Breaks down **fiber** and other food
- e. Fatty acids are absorbed through the rumen wall providing up to **80** percent of total energy required

2. Reticulum

- a. Known as the hardware stomach or **honeycomb**
- b. Located below entrance of the esophagus into the **stomach**
- c. Capacity is **.25 -.50** gallons

3. Omasum

- a. Known as the **manyplies**
- b. Consists of many layers of tissue that grind up food and remove **water**
- c. Capacity is **.25** gallons

4. Abomasum

- a. Considered 'true stomach'
- b. Breaks down food particles before they enter the small intestine
- c. Capacity of one gallon

Esophagus

- Part of the digestive tract
- Passage from the mouth to the stomach
- Acts like a tube that moves ingested material through wavelike contractions

Spleen

- Attached to the side of the rumen
- Function is to filter blood and manufacture blood cells

Kidney

- Bean-shaped organs that lie in the abdominal cavity
- 3 primary functions:
 1. Excretes waste
 2. Controls water levels
 3. Regulates salt concentrations and acid-base balance

Small Intestine

- Three parts: duodenum, jejunum and ileum
- Duodenum - as partially digested food enters, enzymes break it down further into simple compounds
- Compounds are absorbed into the bloodstream by a process in the jejunum and ileum
- Lined with villi: many small fingerlike projections that increase the absorption
- Capacity is 2.5 gallons

Cecum

- Also known as the blind gut
- Located at the junction of small and large intestine
- Feed materials are digested by microorganisms
- Capacity is .25 gallon

Large Intestine

- Consists of colon and rectum
- Primary functions include water absorption and further digestion of feed materials
- Capacity is 1.25 to 1.5 gallons
- Stores waste until it can be passed through the anus

Female Reproductive System

- Doe: mature female goat

- Parts of the female reproductive tract:

- Ovaries
- Oviducts
- Uterus
- Cervix
- Vagina

Male Reproductive System

- **Buck**: mature male goat
- Parts of the male reproductive system:

- Testes
- Scrotum
- Epididymis
- Vas deferens
- Penis

Lungs

- Part of the **respiratory** system
- Primary function is the exchange of gases: **oxygen** and **carbon dioxide**, called respiration or breathing