

Dissected Fetal Pig Student Notes – Answer Key

External Anatomy

- **Head:** Structure of the **snout**, nares(nostrils), **mouth**, eyes and pinnae (**ears**)
- **Neck:** short and thick area between the **head** and **trunk**
- **Trunk:** divided into two parts, **thorax** and **abdomen**
- **Thorax:** region that includes the ribs and the forelegs
- **Abdomen:** region that includes the teats (usually between **5-7** pairs), umbilical cord and hind legs
- **Tail:** covers the rectum of the pig and is located above the genitals of the animal

Dissection Cuts

1. Cut along the midsagittal line on the ventral surface of the pig (*Line 1*), first cutting upward toward the neck (it will be necessary to cut through the ribs as well).
2. Continue the midsagittal cut down into the pelvic region, cut around the umbilical cord while leaving about a ½ inch border. Stop the cut about one inch short of the anus (*Line 2*).
3. Make two lateral incisions just in front of the hind legs (*Line 3*).
4. The two lateral incisions will expose the ribs, skin and muscle on each side. Cut the diaphragm, which is attached to the inside body wall.
5. You should now be able to peel open the left and right flaps of the ventral body wall like a book (*Lines 4*).

**Wash out the body cavity with water if needed, be careful to keep organs intact.*

Thoracic Organs

1. **Larynx:** **voice box**
2. **Trachea:** **windpipe**
3. **Ribs:** cover the **heart** and internal organs
4. **Lungs:** left and right lobes that produce **air** and enable **breathing**
5. **Heart:** located above the **diaphragm** (enclosed in the pericardial sac) and pumps blood to the body
6. **Diaphragm:** bell-shaped muscle that separates the **thoracic** and **abdominal** cavities and aids in breathing

Cardiovascular System

In a fetus, the placenta is the source of oxygen and nutrients, it also removes metabolic wastes from the blood. The lungs, digestive tract and kidneys are nonfunctional.

1. **Heart:** has four chambers that allow blood to flow back and forth from the heart (two **atria** and two **ventricles**)
2. **Aorta:** carries blood from the left ventricle
3. **Vena cava:** returns blood from the extremities to the **heart** (anterior and posterior)
4. **Arteries:** have **smooth** muscle and **elastic** fibers in their walls which push blood out to the body
5. **Veins:** have few elastic fibers and little smooth muscles, they **accept** blood but do not allow it to flow back to the body

Digestive System

1. **Liver:** large, **multilobed** structure under the lungs and diaphragm
2. **Gallbladder:** **green**, saclike organ located under the lobes of the liver on the right side and removes bile (not shown)
3. **Stomach:** saclike **organ** under the liver on the left side
4. **Pancreas:** looks like a clump of pinhead-sized grapes and loops between the **stomach** and start of the small **intestine** (not shown)
5. **Duodenum:** start of the small intestine attached to the **right** side of the stomach
6. **Small Intestine:** coiled tubing consisting of the **duodenum**, **jejunum** & **ileum**, that moves material into the large intestine
7. **Large Intestine:** darker, thicker and coiled tubing moving to the **rectum**
8. **Rectum:** last **two** inches of the large intestine leading to the anus

Urinary System

1. **Kidneys:** against the dorsal wall of the body, filter system of the body
2. **Ureter:** originates at the kidneys and moves to the **pelvic** cavity region
3. **Urethra:** urinary bladder that narrows and forms the urethra entering the pelvic cavity

Reproductive System

1. **Vagina:** dorsal to the urethra and extends posteriorly from the body of the uterus
2. **Penis:** extends posteriorly from the urogenital opening