

Lesson One – Dissected Fetal Pig Anatomy

LEARN: Dissected Fetal Pig Anatomy Slide Presentation

30 minutes

Purpose:

Participants will learn basic anatomy of the fetal pig, gaining a level of understanding that will help them when they do the actual dissection. By understanding the location of these parts, students will gain confidence in exploring and finding these parts on an actual fetal pig.

Materials:

- *Dissected Fetal Pig* slide presentation
- *Dissected Fetal Pig Student Notes Worksheet*
- *Dissected Fetal Pig Student Notes Worksheet - Answer Key*

Facilitation Steps:

1. Hand out the *Dissected Fetal Pig Notes Worksheet*.
2. Have participants follow along and fill in the worksheet as you present the *Dissected Fetal Pig* slide presentation.
3. Review contents of slides 1-7 before moving on to the rest of the presentation. Make sure you give time for the participants to fill in the blanks on the *Dissected Fetal Pig Notes Worksheet*.
4. Use the *Dissected Fetal Pig Student Notes Worksheet – Answer Key* as needed to answer any questions participants have.

Slide Notes:

Slide 5: External Anatomy

- Head: structure of the snout, nares(nostrils), mouth, tongue, 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

Slide 6: 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*).

Slide 7: Dissection Cuts (cont.)

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.*

Slide 8: 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

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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

Slide 9: 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

Slide 10: 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 the start of the small intestine (not shown)

Slide 11: Digestive System (cont.)

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 and 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

Slide 12: Urinary System

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

Slide 13: 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