Due by Friday May 19th

Name: _____ Period: _____

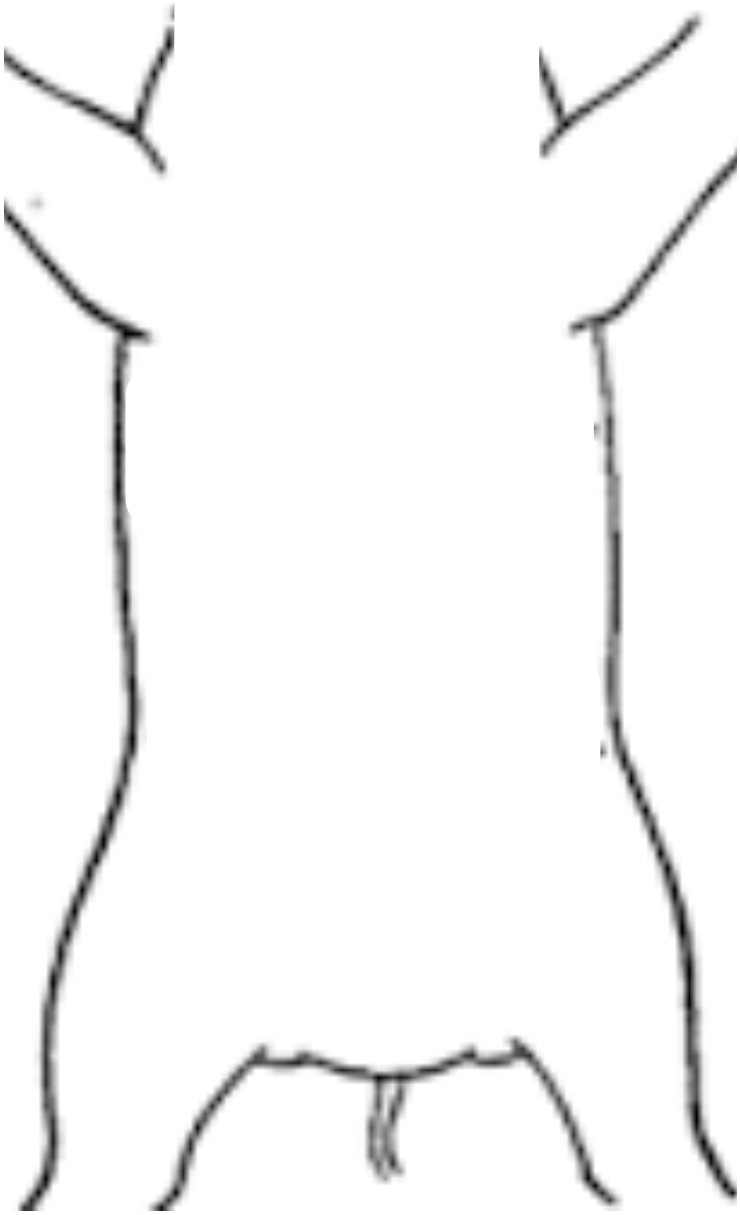
Lab 28: Fetal Pig Dissection – Day 3

Day 3: Excretory & Nervous Systems

Excretory (Urinary) System:

Structure	Number	Description
Kidney(s)		
Ureter(s)		
Renal Arteries		
Renal Veins		
Urinary Bladder		
Urethra		

Figure 1: Excretory & Reproductive Systems



Reproductive System:

Structure	Number	Description
Teste(s) (Male)		
Epididymis (Male)		
Ovary(ies) (Female)		
Oviduct(s) (Female)		
Uterus (Female)		

Nervous System:

Structure	Number	Description
Vertebrae		
Spinal Cord		
Skull		
Meninges		
Cerebrum		
Cerebral Fissure		
Cerebellum		
Medulla Oblongata		

Figure 2: Sheep's Brain

Lab 28: Fetal Pig Dissection – Day 3 Instructions

Excretory (Urinary) System Anatomy:

1. With your pig open, behind the area that contained the small and large intestine will be two bean-shaped **kidneys**. Carefully remove the peritoneum (clear membrane) covering the kidneys.
2. Locate the **ureters** originating from the concave (inside curve) of the kidneys. Follow the ureters away from the kidney until it joins the **urinary bladder**. The ureters carry urine (the waste products from the blood) to the urinary bladder to be excreted.
3. The **renal arteries** and **renal veins** also come out of the kidney. The renal artery carries blood to the kidney so waste products can be filtered out. The renal veins take the newly filtered blood from the kidneys back to the heart.
4. Carefully remove one of the kidneys and cut it horizontally to observe the inside.
5. Lastly, carefully observe the connection of the **urinary bladder** to the urogenital opening outside the body. The tube that connects the urinary bladder to the urogenital opening is called the **urethra.**

Reproductive System Anatomy:

1. If your pig is male:
    a. Find the scrotal sacs toward the end of the pig between the hind legs. In each sac is a **teste**. Cut open the scrotal sac to locate and identify the testes.
    b. Coming from each teste is the coiled **epididymis**. Sperm cells are produced in the testes and are passed through the epididymis. The sperm then exits the out the urogenital opening.
2. If your pig is female:
    a. In the female, locate two small bean shaped **ovaries** located just below the kidneys. These produce the egg cells.
    b. Coming from the two ovaries are the curly **oviducts**. One the ovaries release an egg cell, it travels down the oviduct to the uterus.
    c. Trace the oviducts toward the bottom end of the pig where they merge at the **uterus**. The uterus connects to the urogenital opening where an offspring will be birthed from the uterus if an egg is fertilized and develops into a new baby pig.

Nervous System Anatomy:

1. With your pig open, move any remaining tissue from the abdominal cavity to identify the **vertebrae**, which contains the **spinal cord**. Carefully use your scalpel to cut out a portion of the vertebrae. Look down the center of the vertebrae to observe the spinal cord.
2. The dissection of the brain is difficult and tedious. Carefully follow the directions to avoid destroying the important brain tissues. Two sheep's brains are available to observe a whole intact brain.
3. Position the pig dorsal (back) side up. Using your scalpel scrape the skin from the entire skull.
4. Insert the point of your scissors just under the bone at the base of the skull near the back of the pig's neck. Angle the tip of the scissors upward so as not to damage the soft brain tissue. Cut forward along the midline of the brain to the eyes. Cut the either side at the point where you began cutting and the point where you stopped cutting. Gently remove the skull by carefully using forceps to break and peel away the pieces.
5. The brain should now be exposed. The **meninges** are the membranes which cover the brain in mammals. Using the forceps, carefully peel away the meninges from the brain.
6. The **cerebrum** is the major portion of the brain. The cerebrum is divided into two hemispheres by a deep groove called the **cerebral fissure**. The cerebrum of most mammals has a folded surface. The cerebrum controls voluntary muscle movements, thinking, memory, judgment, and the senses.
7. Behind the cerebrum is the **cerebellum**. The cerebellum is principally a motor coordinating center.
8. Behind the cerebellum is the **medulla oblongata,** which leads to the spinal cord. The medulla oblongata controls respiration, heart rate, and blood pressure. It also helps in regulating sensory impulses, hormonal secretions, and general awareness (consciousness).