Kidney Dissection Lab (13 structures)  

NAME____________________ PER______

Use the Human Anatomy and Physiology Lab Manual by Marieb pp. 415-419

**Introduction:** The body must rid itself of wastes such as uric acid to maintain homeostasis. A process called ______________ allows this to happen. Kidneys, __________-shaped organs, are used during this process. Kidneys lie on either side of the spine at the lower back. Water is filtered through the _______ of the kidneys and sent through the _________ to collect in the ____________. Then, urination occurs through the tube known as the _____________.

**Procedure:**
1. Wear safety glasses, gloves, and aprons.
2. Carefully remove the fat on the inside curvature of the kidney to expose the blood vessels. 
   **Distinguish the renal artery from the renal vein.** They should be dyed with red and blue latex. The renal artery should also be easy to distinguish since they have thicker walls but are usually smaller in diameter than veins.
3. **Locate the ureter,** the long, thin tube leaving the kidneys. These tubes carry urine to the urinary bladder.
4. **Locate the hilus,** the inner groove of the kidney.
5. Next, remove the **renal capsule**. Then, carefully cut the kidney lengthwise to expose the internal structures.
6. The peripheral and somewhat lighter portion is the **cortex.** The greatest portion of the nephrons lie here. The darker, inner portion is the **medulla** where the collecting tubules are found. Filtered urine travels then to the calyx in the renal sinus where it exits out the ureter. **Locate the major calyx, minor calyx, and renal sinus.** Use your lab manual to assist you.
7. Use your lab manual to **locate the renal pelvis, renal column, and renal pyramid.**
8. When you are finished locating the structures, place your kidney in the designated location. Clean your dissecting tools, tray, and lab station thoroughly.

**Questions:**
1. Draw a simple sketch of the external view of the kidney, labeling the hilus.
2. What is the function of the fat that surrounds the kidneys?
3. Trace a drop of blood from the time it enters the kidney in the renal artery until it leaves the kidney through the renal vein.
4. Where are the adrenal glands located? What is their function?
5. What is important functionally about the transitional epithelium in the urinary bladder?
Labeling:

Using the following terms, label the diagram of the nephron.

Bowman’s capsule
glomerulus
distal convoluted tubule
ascending limb of Henle
arcuate artery and vein
peritubular capillaries
renal corpuscle
efferent arteriole
descending limb of Henle
interlobar artery and vein
proximal convoluted tubule
juxtaglomerular apparatus
afferent arteriole
collecting tubule