# URINARY SYSTEM

1. Name the organs and tubes of the urinary system:

2 *kidnesys* 2 *ureters*

1 *urinary bladder* 1 *urethra*

2. Match the following structures with their functions:

kidneys carry urine to bladder from kidneys

ureters stores urine

urethra carries urine from bladder to outside body

bladder filters blood, removes wastes, produces urine

3. Blood enters the kidney via the *renal artery* which is a branch of

the *descending aorta*. The blood leaves the kidneys in the *renal vein*

which joins the *inferior vena cava*.

**Topic: Kidney**

4. What is the functional unit of the kidney? *nephron*

How many are in each kidney? *Approximately 1.2 million*

5. The renal artery branches until each nephron has an *afferent arteriole* leading to it. This leads to a convoluted (twisted) capillary called the *glomerulus.* The *efferent*  arteriole leads away from the glomerulus to a second capillary bed called the *peritubular capillaries or vasa recta* capillaries.

6. Put the following nephron structures in order:

5 Ascending limb of the nephron loop

7 Collecting duct

4 Descending limb of the nephron loop

6 Distal convoluted tubule (DCT)

2 Glomerular capsule (Bowman’s)

1 Glomerulus

3 Proximal convoluted tubule (PCT)

## Topic: Urine Formation

7. Blood pressure in the glomerulus is: (high or low) *high*

8. Blood plasma (except for the plasma proteins) moves out of the glomerulus and into the *glomerular capsule* . This fluid is called *glomerular filtrate*.

When/where does the fluid become urine? *When it enters the collecting duct.*

9. Summarize the *basic* steps in the formation of urine in the chart below:

|  |  |  |
| --- | --- | --- |
| 1 | Glomerular filtration | Creates plasma-like filtrate of the blood |
| 2 | *Tubular Reabsorption* | *Essential nutrients and substances are put back into the blood plasma.* |
| 3 | *Tubular Secretion* | *Chemicals that were not filtered in the glomerulus but need to be removed from the are put excreted into the filtrate* |

## Topic: Urine Elimination

10. The inside of the urinary bladder is lined with a *transitional* epithelium.

The outside of the urinary bladder is covered by a *connective tissue* coat.

What is the name of the muscle in the bladder? *detrusor*