Name: _____ Date:_____Hour:

Kidney Function Animation

Directions: Watch the entire animation one time. Read each slide carefully and watch the accompanying animations. Return to the beginning of the animation and answer the following questions.

1. Where are the kidneys located? What are the internal structures of the kidney?

2. Name the structure that carries out the "work" of the kidney. Approximately how many do we have?

3. Describe what is meant by the glomerulus. Where does the blood that drains the glomerulus move to?

4. View slides 4 through 7, diagram a nephron and label the following anatomical structures of a nephron and the corresponding blood vessels outside the nephron: glomerulus, proximal tubule, loop of henle (ascending limb and descending limb), distal tubule, collecting duct, cortex, medulla, peritubular capillaries.

Name: _____ Date:_____Hour:

5. Name the three processes by which the nephron controls the composition of the blood.

6. What is responsible in the first step of urine formation? What is the pathway of the water/small molecules? Where are the filtrates left at after processing?

7. What is the proximal convoluted tubule responsible for?

8. What takes up water in the proximal convoluted tubules? Where are the solutes/water returned to?

9. How does the loop of Henle create concentrated urine?

10. What region actively transports Cl^- and passively transports Na^+? Does water also diffuse in this region?

11. Where is the fluid in the renal system MOST concentrated? Why? Where is the fluid LESS concentrated than the blood plasma? Where have the solutes been left behind?

Name: _____ Date:_____Hour:

12. As the fluid descends down the thick/thin ascending limb, what causes the urine to become more concentrated?