

Nephron & Urine Formation Handout

As you work your way through the nephron and urine formation video, answer the following questions to help you collect the relevant information.

- 1. List the different components of a nephron and describe their functions.**
- 2. Describe the features of the glomerulus and how they function to filter blood into the nephron.**
- 3. At the proximal tubule, how is a Na^+ gradient created. What role does this gradient play in the filtration of other substances?**

4. What is countercurrent exchange? How does the ascending and descending loop of Henle achieve this? Provide detail of the movement of substances in and out of the loop of Henle.
5. Where in the nephron is there a positive feedback system? How does this feedback system function?
6. Where in the kidney do hormones play a role in filtration within the nephron? What are these hormones? Under what circumstances are they released by the body and how do they work?

8. When doctors treat a patient with diabetes. They often examine the patient's urine, as well as the patient's blood glucose level. Provide a possible reason why doctor's examine a patient's urine. Explain your reasoning.