

Urinary System Presentations

The design of the urinary system is incredible and amazing in how everything is so perfectly set up in order to maintain our body. This presentation is designed to give you the opportunity to better understand the urinary system through a deeper study and by what other students present.

Two Options:

1. Anatomy of a Kidney and a Nephron – Figure 15.2
2. Anatomy of Nephron and the Vasa Recta – Figure 15.5

Items to include:

1. Figure from the text or if you prefer a model of the item you chose
2. Labeling of the parts
3. Description of the parts and their function

You can use the figures and enlarge them; however, remove the labeling and do the labeling yourself (by hand or labeler). Have your diagrams mounted onto a board that is at minimum the size of $\frac{1}{2}$ of poster board. This should give you an idea of the size needed of the figures. You can mount onto any material of your choosing.

The figures are needed to aid in your presentation; they are not the focus. What is important is for you to know the parts of the system you selected and being able to talk about the function of these parts in the urinary system.

The information you need is in your text. The depth you go and the details of your presentation are dependent on you. At minimum, the presentation should be 10 minutes, address every part in the figure you selected, and detail the function and interaction of each part. (NOTE: *15 minutes is the maximum*) You may supplement your presentation by using other resources, making a model, drawing the figures, or preparing a unique presentation. If you choose to do more, then it will count for extra points.

Don't miss this opportunity to increase your knowledge and more importantly your amazement of God and His design!

Student Name: _____

Estimated time spent on project: _____

Date: _____

Advanced Biology - Urinary System (2-D or 3-D) Figure 15.2 OR 15.5 Presentation

- 1. Visual aid(s) appropriate and creative _____
 - 2. Information presented in a clear and organized manner _____
 - 3. Presentation time 10 – 15 min. **Time:** _____
 - 4. Presentation demonstrates knowledge of topic _____
 - 5. For additional sources, sheet turned in listing them – **Extra:** Yes? ___ No? ___
- Subtotal of points out of possible 30** _____

- 1. Information is scientifically accurate _____
- 2. All parts labeled on diagram, model, a supplemental board, or key _____

3. Option 1: OR
 Anatomy of a Kidney & a Nephron – **Fig. 15.2:**
(Point out areas as they are discussed.)

- ___ 1. Renal capsule
- ___ 2. Cortex
- ___ 3. Medulla
 - ___ a. Renal pyramids
- ___ 4. Renal columns
- ___ 5. Minor Calyces
- ___ 6. Major Calyces
- ___ 7. Renal pelvis
- ___ 8. Ureter
- ___ 9. Renal vein
- ___ 10. Renal artery
- ___ 11. Nephron
 - ___ a. Bowman’s capsule
 - ___ b. Glomerulus
 - ___ c. Proximal tubule
 - ___ d. Loop of Henle
 - ___ e. Distal tubule
 - ___ f. Collecting duct

3. Option 2:
 Anatomy of Nephron & Vasa Recta – **Fig. 15.5:**
(Point out areas as they are discussed.)

- ___ 1. Proximal tubule
 - ___ 2. Descending limb
 - ___ 3. Urea
 - ___ 4. Water
 - ___ 5. Vasa Rector
 - ___ 6. Ascending limb
 - ___ 7. Active transport (Na+, K+, Cl-)
 - ___ 8. Electrolytes (explain)
 - ___ 9. Distal tubule
 - ___ 10. ADH
 - ___ 11. Results of increase in ADH
 - ___ 12. Results of decrease in ADH
- Include in diagram or module with brief detail:
- ___ 13. Afferent arteriole
 - ___ 14. Efferent arteriole
 - ___ 15. Peritubular capillary
 - ___ 16. Solute concentrations (300, 600, 900, 1200)

Subtotal out of possible 70 points _____

Teacher comments:

Grade Total