

Name _____

Period _____

AP Biology

Date _____

RAVEN CHAPTER 49 GUIDED NOTES: MAINTAINING THE INTERNAL ENVIRONMENT

1. Define homeostasis.

2. Explain how negative feedback works to maintain homeostasis.

3. Describe the negative feedback system that humans use to maintain body temperature (thermoregulation).

4. Explain the difference between endotherms and ectotherms.

5. List some examples of how an ectotherm moderates body temperature so that it is not at the extremes of environmental temperatures.

6. What are positive feedback loops? Give two examples.

7. Osmoregulation refers to the maintenance of what bodily materials?

8. Explain the difference between osmoconformers and osmoregulators.

9. Make brief notes on the ways different organisms excrete metabolic wastes and manage water and ion balance.

a. Protists _____

b. Flatworms _____

c. Annelids _____

d. Arthropods _____

e. Vertebrates _____

10. Briefly list the osmoregulatory problems faced by the following organisms and explain how they are addressed.

a. Freshwater fish _____

b. Marine fish _____

c. Cartilaginous fish (sharks & rays) _____

d. Amphibians _____

e. Reptiles _____

f. Land mammals _____

g. Marine birds _____

11. What cellular process produces nitrogenous waste? _____

12. List the three nitrogen waste products and describe the influence of habitat on which type is produced by animals.

a. _____

b. _____

c. _____

13. Define each of the key functions of the excretory process.

a. Filtration _____

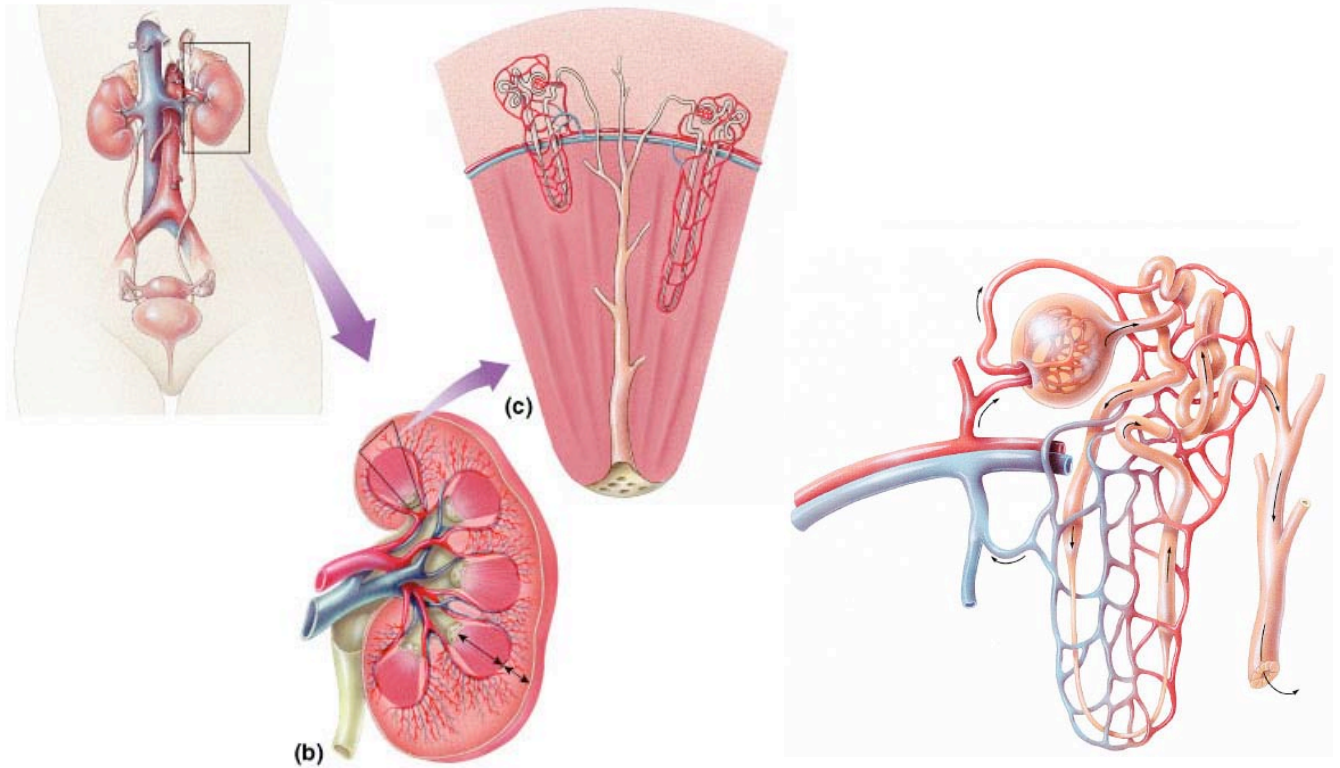
b. Reabsorption _____

c. Secretion _____

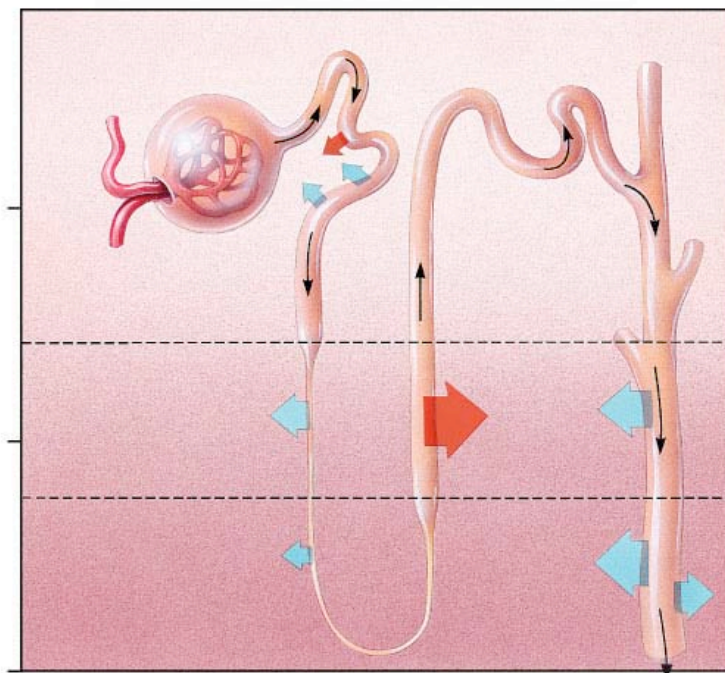
d. Excretion _____

14. What is the relationship between the kidney (excretory system) and circulatory system?

15. Label the diagram of the human urinary system.



16. Using the diagram of the nephron, note the major exchanges that occur along the various sections. Indicate the osmolarity (salt conditions) in each region.



17. Explain how the descending limb and the ascending limb of the loop of Henle differ. Explain how these structural differences make it possible for the kidney to produce concentrated urine.

18. Describe the two feedback mechanisms that regulate the kidney.

a. ADH _____

b. Aldosterone _____

c. ANH _____
