Name _____

Date _____ Score _____

ASSIGNMENT SHEET

CHAPTER 11: ANATOMY AND PHYSIOLOGY OF THE HUMAN BODY

Unit 11: The Urinary System

WORDS TO KNOW CHALLENGE

A. Word Scramble: Unscramble the following terms.

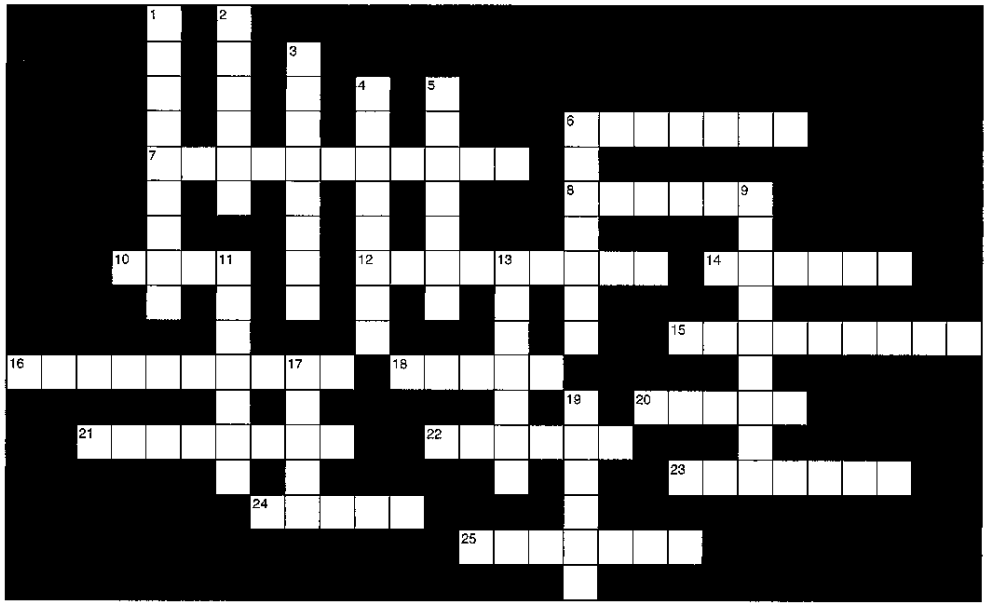
1.	_____	O R A T N I C U
2.	_____	D E L B R A D
3.	_____	L R A G O I U I
4.	_____	E Y A C S L C
5.	_____	Y A U P I L O R
6.	_____	I S Y T I C T S
7.	_____	A Y I S L S D I
8.	_____	R I Y S A D U
9.	_____	N E R T N O I T E
10.	_____	E N R E T S O I C
11.	_____	R T E I S R T U C
12.	_____	H U A T R E R
13.	_____	O N H E P N R
14.	_____	U I L A L C C
15.	_____	I O Y P I T L H R S T

B. Word Puzzle: Use the clues listed to spell out these terms.

1.						U	_	_	_			
2.				_	_	_	R	_	_	_	_	_
3.						_	I	_	_	_	_	
4.	_	_	_	_	_	N	_	_	_	_	_	
5.				_	_	_	A	_	_	_	_	_
6.	_	_	_	_	_	R	_	_	_	_		
7.						_	Y	_	_	_	_	

1. Absence of urine
2. The act of separating and removing
3. Retroperitoneal organ
4. The act of expelling from body
5. Presence of blood in the urine
6. Cluster of capillaries
7. Group of organs

C. Crossword Puzzle



ACROSS

6. Kidney stones
7. The act of passing urine
8. The act of drooping
10. To urinate
12. A narrowing
14. Tube from kidney
15. The act of producing from the blood
16. Renal capillary
18. Greek word for cup
20. Notched area of kidney
21. Bladder inflammation
22. Urine products in the blood
23. Drains urine from the bladder
24. Pertaining to the kidney
25. Sudden urge to void

DOWN

1. The act of separating waste from the blood
2. Absence of urine
3. Urine left after voiding
4. Artificially clean the blood
5. System in this unit
6. Contains glomerulus
9. A narrowing
11. Painful urination
13. Calyx (pl.)
17. Waste product of the kidneys
19. The organ that removes wastes from the blood

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UNIT REVIEW

A. Matching: Match the term in column I with its description in column II.

COLUMN I	COLUMN II
_____ 1. Cystitis	a. Urgency, dysuria, nocturia, hematuria, ammoniac or fishy odor to urine, high fever, chills, flank pain, fatigue
_____ 2. Glomerulonephritis	b. Small stream of urine, prolonged urination time
_____ 3. Nephrotic syndrome	c. Oliguria, azotemia, severe electrolyte imbalance, acidosis, uremia, other body system involvement
_____ 4. Polycystic kidney disease	d. Frequency, dysuria, bladder spasms, sharp stabbing pain upon urination
_____ 5. Pyelonephritis	e. Severe pain beginning in kidney, moving to groin area, nausea, vomiting, chills, and fever
_____ 6. Renal failure	f. Generalized dependent edema, pleural effusion, ascites, lethargy, fatigue, pallor, swollen external sexual organs
_____ 7. Stricture	g. Urine products in the blood, coma, toxic waste levels in blood, eventual death
_____ 8. Calculi	h. Moderate edema, proteinuria, hematuria, oliguria, fatigue, urinary casts, hypertension
_____ 9. Uremia	i. Pointed nose, small chin, floppy low-set ears, inner eyelid folds, eventually widened body, swollen, tender abdomen, life-threatening bleeding, ureteral spasms

B. Short Answer

1. List the three main functions of the urinary system, explaining the meaning of each.
   a. _____
   b. _____
   c. _____
2. Identify the organs of the urinary system; describe their physical characteristics.
   a. _____
   b. _____
   c. _____
   d. _____
3. How does the urinary system work with the other body systems to accomplish its job? _____

4. How is the interior of the kidney constructed?

5. List the parts of the nephron and describe the function of each part.
   a.
   b.
   c.
   d.

6. Describe kidney dialysis, and identify two major types or methods.

7. What are the two main categories of diagnostic examinations? Give one example of each type.

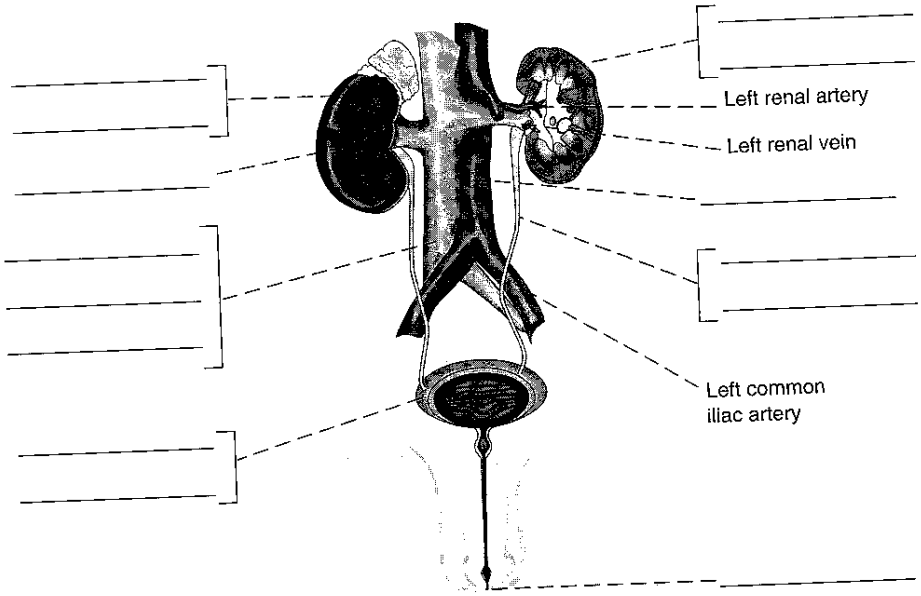
8. Name the three types of incontinence.
   a.
   b.
   c.

Name _____

C. Label the Illustrations

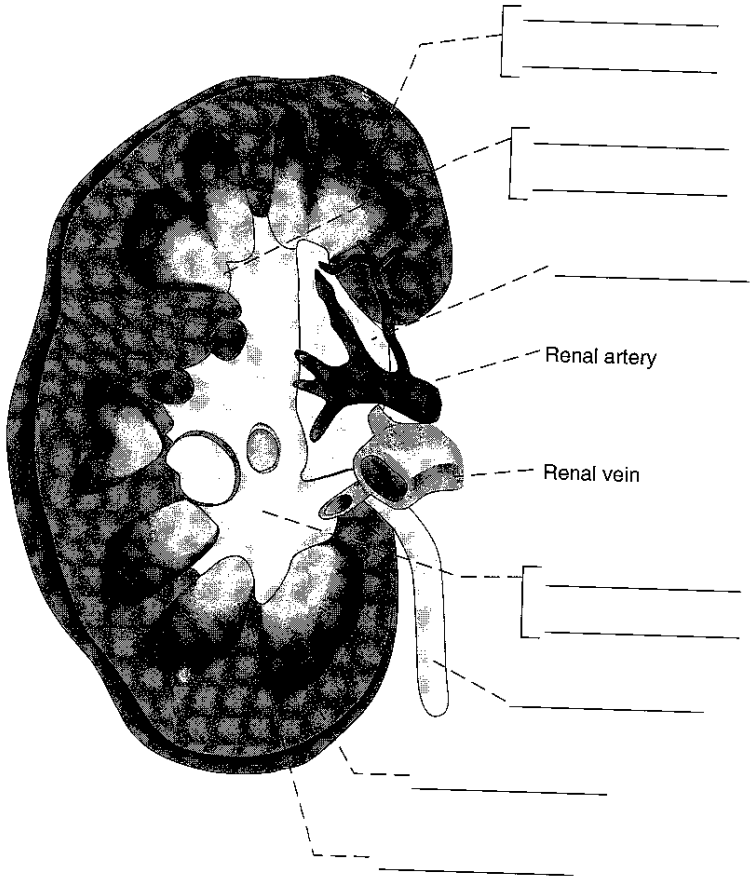
1. Label the illustration of the urinary system using the following terms. Refer to Figure 11-175 in the textbook.

Aorta
Inferior vena cava
Hilum
Left kidney
Left ureter
Right kidney
Urethra
Urinary bladder



2. Label the illustration of the interior of the kidney with the following terms. Refer to Figure 11-176 in the textbook.

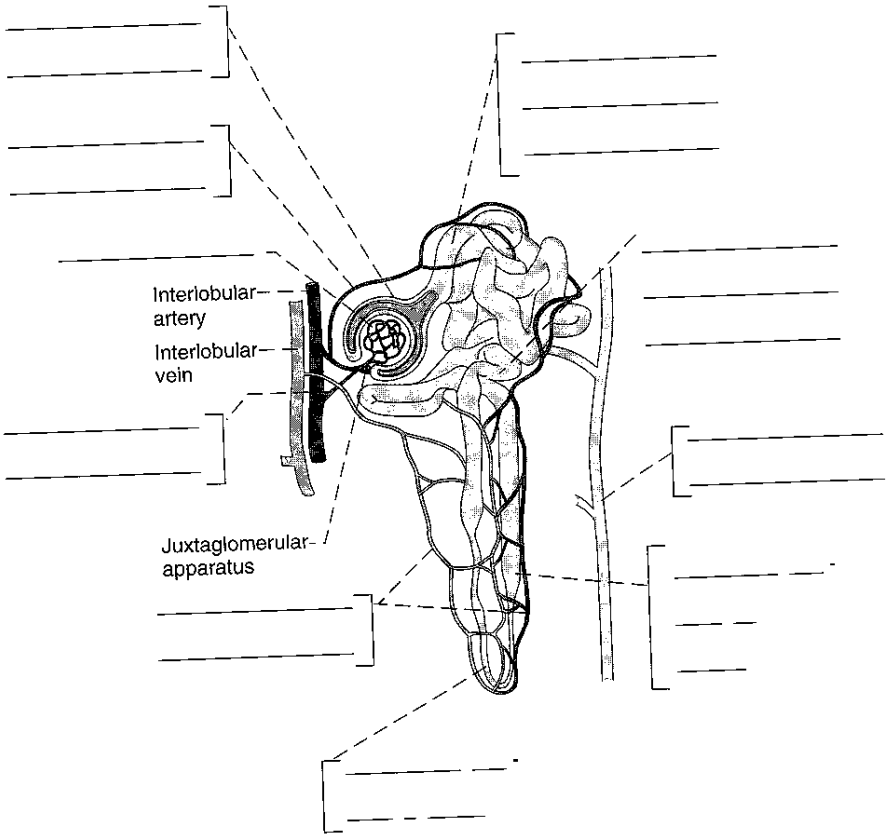
Cortex
Hilum
Medulla
Renal papilla
Renal pelvis
Renal pyramid
Ureter



Name _____

3. Label the illustration of a glomerulus using the following terms. Refer to Figure 11-177 in the textbook.

Afferent arteriole
Ascending limb-loop of Henle
Bowman's capsule
Collecting tubule
Descending limb-loop of Henle
Distal convoluted tubule
Efferent arteriole
Glomerulus
Peritubular capillaries
Proximal convoluted tubule



CASE STUDIES

Scenario 1

A female patient calls to find out whether if she is experiencing a reaction to a cystoscopic examination three days ago. She has started going to the bathroom frequently and, now it is beginning to be painful. She thinks it looks like there might be a little blood in her urine. She wonders if this is common.

Critical Thinking Questions

1. What other symptoms would you want to rule out?
2. Why should you ask if she has done anything to treat herself?
3. Why should you ask where can you reach her after talking to the physician?

Scenario 2

Mr. Stark called complaining of severe pain off and on in his lower abdomen. He has been nauseated and vomited a couple times. He feels he has a fever and thinks he may have the flu. He wants the doctor to call in a prescription for him.

CRITICAL THINKING QUESTIONS

1. When did the pain begin and what is its character and intensity?
2. Did he eat anything different?
3. Does he still have his appendix?
4. Are there any other symptoms?

UNIT APPLICATION

Research Activity

Suppose you or someone you know developed an end-stage kidney disease. How would you educate yourself about the kidney transplant process? Obviously, there would be physicians and transplant center personnel to assist you, but let's find out a little basic information on our own. The University of Southern California has an easy-to-read website at www.kidneytransplant.org/patientguide. Go to this website and read about the pretransplant evaluation.

1. What is "tissue typing"?
2. Why are mammograms and PAP tests required for female recipients?
3. Why do recipients have to see a dentist?
4. What is crossmatch testing?

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Go back to main page and click the Kidney Transplant Surgery Procedure link.

5. Where is the donor's kidney placed?

Go back and study the links under the Donation Process head. Here you can learn about donation, qualifying the recipient, and organ acceptability.

Another site has some interesting facts. Go to http://nlm.nih.gov/medlineplus. Click the Medical Encyclopedia link, then click "K," and scroll down to Kidney Transplant.

1. How many transplants are performed in the United States in a year?
2. How is the kidney maintained for transplant?
3. What is the time limit for transplantation?
4. What is the survival rates at one, three, and ten years?

CERTIFICATION AND REGISTRATION PREPARATION

_____ 1. Which of the following diagnostic procedures is not noninvasive?
   a. Catheterization
   b. Ultrasound
   c. KUB series
   d. Fluoroscopy

_____ 2. A clean catch specimen is not:
   a. a sterile specimen
   b. caught in midstream
   c. collected by the patient
   d. obtained after careful cleaning

_____ 3. An intravenous pyelography:
   a. requires catheterization
   b. is an X-ray study with contrast media
   c. is a noninvasive procedure
   d. allows visualization of the bladder interior

_____ 4. Which of the following terms does not refer to a type of incontinence?
   a. Stress
   b. Overflow
   c. Urge
   d. Pressure

_____ 5. Polycystic kidney disease is characterized by:
   a. large number of protein molecules in the urine
   b. fluid-filled structures within the kidney tissue
   c. a history of a systemic infection
   d. rapidly developing symptoms

_____ 6. Which of the following is the basic cause of renal calculi?
   a. Drinking hard water
   b. A habit of delaying passing urine
   c. Getting too much calcium in the diet
   d. Crystals formed from chemicals in the urine

_____ 7. Acute renal failure may result in all the following except:
   a. uremia
   b. death
   c. sudden kidney failure
   d. progressive loss of kidney function

_____ 8. The only long term treatment for uremia is
   a. a kidney transplant
   b. antibiotics
   c. radiation
   d. blood transfusions