2. _______
Food goes from _______ → _______ → _______ → _______:
inner wall is friction/abrasion resistant – __________
tissue w/ _______ producing glands
_________ ________: 2 layers of _______ _______ 1. _______
& 2. ________ which _______ food _______ into _________

3. _______
_________ long carries food from _______ to _________
________ closes off _______ when__________ Passes
through _________ and pierces ___________, entering .
abdominal cavity, at the esophageal _______. Joins the stomach
. at ______ _______ (opening) through _________ _______

4. _______
Canal layers
_______ – still ______________ stratified squamous epithelium
_________ – mucus secreting glands to ________ the food
___________: superior third _______l; middle third mixed
___________ inferior third all _______Deglutition: Swallowing
_________ – Connective tissue?

5. Figure: 23.12  pg. 865

6. Figure: 23.13; page 867

7. Figure: 23.13  pg. 867
8. Inferior to stomach – temporary _______________ where chemical _______ of _________ start __________: food, when turned into a _______ _______. Found in ________________ _______ inches long Stretches! _______ to _______________ _______ (wrinkly): _________ folds when ________

9. Regions of stomach
_________ region (near heart)
________: dome shaped __________ edge up against the _________
________: Mid portion
______________: ________ end of stomach w/pyloric ________controlling ________to _________ ________.
________ curvature/________ curvature: inner, superior, curved edge/outer, inferior, curved edge

10. Figure 23.14 a; page 868

11. _________ (pl): Double _________ linings that help ________(hold) the _________ & other organs _________ and to the abdominal ______________: goes from _________ to the __________ lesser curvature & then becomes continuous with stomach’s __________ ________
_____________: stomach’s _________ peritoneum _________ off inferiorly, the________ curvature where it continues to envelop the _________ __________, the _________and parts of the large intestine and finally attaches to the posterior __________ ________
12. Microscopic Anatomy – four layers
_________ (inner) - simple columnar
Secretes: Protective __________ ______ against stomach
__________
Gastric_______ in deep _______ pits secrete _______ juices
_________ cells: HCl – __________ ________
________ _______ : __________ that becomes ______ which
________ protein ________
______________glands (gut hormones) chemical_________ to
__________ digestion __________

13. Muscularis: three layers instead of two
_________ _______ and ________
_________ _______ and churns the_______
Breaks it down into _________ pieces (more _______ _______)
for _______ digestion
Bends into a ______________ to _______ food into small
_______

14. Figure: 23.14; page 868

15. __________ _______ – _________ digestive organ
Most digestion occurs_______ and all _________ occurs here
About______________ feet long
_______ inches in diameter
3 parts: _________ _________ & _______ - all coiled up and
_________ in ________

16. __________ – ______________, coming off _________ at the
______________.
________ & main ______________dump off _______ and
_________ in __________ at the ______________ ampula
and sphincter
17. Fig. 23.21; pg. 878

18, _________: Middle 8 feet
_______: Final 12 feet that joins the___________ at the
_______valve.
Modifications for absorption – ________________, _______ and
_______ – increases _______________/absorption area
_______ times – two _______ courts

19 _______________
longitudinal about _________– set up turbulence that ______ the
chyme down for more __________

_______
______________ – _________ high – velvety appearance – primarily
____________ _______ epithelial tissue
Dense _______________ and_______ _______ to _______
nutrients into _______ and l________

20 _________
little fingerlike projections with even littler fingerlike projections.
_______appearance so called a ______________

21.  Figure: 23.22a; pg. 879

22. Figure 23.22b;  pg. 879

23. Figure 23.22 c  pg. 879
24. __________
Simple columnar for __________
________ cells to secret _______dissolves digesting molecules,
keeps _______ liquid, allows for _________ surface
_________ defenses
Endothelial cells are ______________ rapidly but, they
________just as ________

25. LIVER AND GALLBLADDER
Many_________ and _________ roles
In digestion it’s role is to produce _______
Bile is a ______________ – breaks _______into _______ particles
so its __________ ________
____________ stores the _______
Liver is ______ _______ in body – weighs about _______
Wedged shaped, ______________ just under the_______

26. Liver Anatomy
Two_______ _______, right and left, separated by
_____________ ligament
Also a ______________________ lobe
______ _______ leaving the GI tract goes to the ______by the
________________________. This allows the liver to _______ the
“bad stuff” from the bad blood before it goes to the rest of the body

27. Figure 23.24; pg. 882

28. ____________
_______ ______ are made up of _______ _______
______ sided, __________________ the size of a ________ seed
Each lobule is made up of plates of ___________ (liver cells) which
produce _______ and dumped into __________ which dump into
_______ ducts which merge to form the _______________ that joins
with the _______ _______ from the _______ _______ to form the
_______________________ that joins _______ duct
_______________________

29. Figure 23.25; page 883

30. Figure 23.25c; page 883

31. ______________
______ shaped sack on the _______ side of the _______ near
right lobe
About ___________ long
_______________________ bile. _______ it into ___________ to
_______________________ into small ________

32. ______________
Secretes _______ that are crucial to _______.
It drains into the _______ duct that joins w/ the bile duct at the
_______________________ duct.
__________ shaped, positioned laterally, mostly posterior of
stomach, with large “head” side to right

33. Figure: 23.1 page 852

34. ________________ About _______ long and almost __________ in
diameter
Main function is to _______________________ from chyme/digested
food and temporarily store the _______ and then _________ hem
from the body as _______
_______ with _______ intestine in lower right quadrant at the
____________ valve
35. ______________, cecum, appendix, splenic flexure, transverse colon, hepatic flexure, descending colon, sigmoid colon and rectum. Ending at anus with internal (involuntary) and external (voluntary) sphincter muscles

______________ (layer): ________________ rows of ________muscle that pulls the intestine making it ______up into pouch-like segments called ________ __(to draw up)

36. Figure: 23.29a; page: 891

37. ______________

______________ tissue. No absorption so, ______________

Lots of ______w/ ________________ producing _______ to reduce _______ on exiting feces.
1. CHAPTER 25, URINARY SYSTEM

2. Urinary system kidneys, _______ the blood allowing the body to get rid of _______, _______ _______ and _______ _______ in urine while _______ _______substances to the blood Filters around_______ liters per day It also _________ the _________ and ______________ of the blood, maintaining proper _______ between ________________, ________________

3. Urinary system includes:

_______ –_______
Urinary _________ – temporary _______ _______ _______ for urine _______ –_______ of _______ connecting _______ and _______ – connecting ________ to the ________

4. Kidneys are, ____________, _______ shaped organs in the _________, _______ region

5. Figure 25.1; pg. 961

6. Figure 25.2 a&b; pg. 962

7. External Anatomy of kidney

1. __________: _______ layer of dense __________that _________ kidney to surrounding tissues & posterior_________ _______

2_____________________:_______ mass around kidney - a protective _________

3. _______________: Transparent _____________ protecting from surrounding _________
4. Renal_______: Notch at concaved ______ aspect of kidney where______________and ______, ______ and ______ enter

8. Figure: 25.2; pg. 963

9. Figure: 25.3 b; pg. 963

10. Internal Anatomy of kidney – 3 distinct regions: ________ ________ & ________

   1. ____________: Most ______________, light, reddish granular appearance

   2. ______________: Next layer, darker reddish brown with ______________ tissue masses called:

   3. ____________ sepearated by  4. __________ ________

   5. ________ ________: ________ of renal ________ that points to renal hilum

11. Kidney internal anatomy (cont.)

   6. ____________: __________ shaped_______ continuous with _________. The pelvis divides into 7. major calyces (2or3) which divides into 8. ________ ________, each of which ________ urine from the_______ ________ of the pyramid

   Urine from ________ → ________ → ________ ________ → ________ ________ → ________ ________ → ________


   __________ ________ enter ________ and diverge into smaller and smaller arteries with most of the blood initially going into the ________ _________. The blood ________ the ________ through a series of veins that eventually join, leave the kidney and go to the ________________ by the way of the ________ veins
14. Nephron

_____________________ of the kidney to produce ________
About a ________ in each kidney
Thousands of _________ _________ to collect the ________ from
several ________

15. Anatomy of nephron

Each nephron has a __________ – little ball of ________
Each glomerulus sits in a __________ _________ (__________
__________) together they’re known as a ________ _________
__________ _________ rich fluid can pass from the __________ in the
__________ (capillaries) into the __________ capsule
The ________ then goes from the Bowman’s capsule to the
________

16. Fig. 25.5; pg.965

17. Figure; 25.8; pg. 968

18. The ________ _________ leaves the ________ _________, gets all
twisted up, and becomes the ________ ________ _________ (PCT)
It straightens out makes 180 degree “U” turn back towards the
glomerular capsule. This is known as the loop of _________. Next it
gets all twisted up again to become the ________ ________ _________
(DCT) Finally, at this point, it _________ whatever _________ it picked
up from the _________ into the _________ duct
19. The Bowman's capsule absorbs a lot from the glomerular capillaries – _______ and _______. _______/24 hours _______ _______ wrap around the _______ _______ which _______ a lot of the good stuff that was initially lost. Urine: . _______ liters /day

20. Two types of nephrons – Cortical & Juxtamedulary

_______: _______ mainly in _______ w/ _______ loops of _______

______________: _______ at_____________________ w/ _______ loops of Henle that dip down into __________ portion.

21. Fig. 25.7; pg. 967

22_________

_________ from _______ _______ to _______, which carries it to the _______.
One for each______ When _______ builds up in _______, _______ to ureters _______ so urine wont _______ into kidneys

23. Figure 25.1; pg. 961

24. Figure 25.19; pg. 985

25. Ureter __________

1. _______ – secretes _______ to _______ _______ from _______ (acidic) of _______
2. __________ – _______ _________ and outer _________ _________ muscles
3. _______ – __________________________ that holds _______ in _________

26. __________ _________
Expandable _________ _______ to ________ ________ just posterior to the _________ _________ ________ openings – 2 for the _________ & 1 for the _________ – These three openings outline the________, the triangular _________ of the _________. This is the area commonly affected by _________ _________

27. Figure: 25.21; pg.987

28. Bladder __________
________: _______ producing to protect the epithelial tissue from ________ urine
The _________ _________ is _________ _________, that allows it to ________ _________: _______ layers of muscle referred to as the _________ _________ muscle
_________ normally stores about _________ mls. (pint) It can stretch to almost _________ ________ that size

29. __________
______ running from _________ _________.
_________ _________ sphincter – _________ _________ muscle, when closed _________ urine from _________ the bladder to urethra
_________ _________ sphincter – _________ _________ muscle, under _________ control, when _________ allows urine to pass from bladder to urethra