Renal System (Kidney)- AP

- Functions
  - _____
  - Blood volume and blood _____ control
  - pH _____
  - _____ of solutes
  - Vitamin_____production
  - Red blood cell _____
- _____ of Urinary System
  - ___kidneys
  - ___ureters
  - ___urinary bladder
  - ___urethra
- Kidney _____
  - Shape and _____:
    - _____ shaped
    - Weighs _____ (bar of soap or size of fist)
  - _____:
    - Between _____ thoracic and _____lumbar vertebra
- Kidney _____
  - Renal _____:
    - Connective _____ around each kidney
    - Protects and acts as a _____
  - _____:
    - _____
    - Contains renal _____ veins, nerves, _____
  - Renal _____: contains renal pelvis, blood vessels, fat
  - Renal _____: outer portion
  - Renal _____: inner portion
  - Renal _____: junction between cortex and medulla
  - Renal_____:
    - Narrows to form _____
- _____
  - _____ unit of kidneys
  - Over _____/kidney
  - _____ of Nephron
    - Renal _____: structure that contains a Bowman's capsule and _____
    - _____ capsule:
      - _____of nephron
      - Opens into _____

        - Contains _____ (specialized cells around glomerular capillaries)
    - _____: contains capillaries wrapped around it
    - _____:
        - In renal corpuscle
        - Includes glomerular _____, podocytes, basement membrane
        - _____: fluid that passes across filtration membrane
    - _____: where filtrate passes first
    - _____:
        - Contains descending and ascending _____
        - Water and solutes pass through _____ by diffusion
    - _____: structure between Loop of Henle and collecting duct
    - _____:
        - Carry fluid from cortex through medulla
- Urine Formation-_____
    - Movement of water, ions, small molecules through filtration membrane into _____
        - _____ of plasma becomes filtrate 1
        - _____of filtrate are produced by the nephrons each day
        - _____of filtrate (1.8 L) become urine rest is reabsorbed
    - Only _____ are able to pass through filtration membrane
    - Formation of filtrate depends on filtration _____
        - Filtration pressure forces_____ across filtration membrane
        - Filtration pressure is influenced by blood _____
- Urine Production-_____
    - _____of filtrate is reabsorbed and reenters circulation
    - Proximal tubule is _____for reabsorption of solutes and water
    - Descending Loop of Henle _____
        - Reabsorption of water and solutes from _____ and collecting duct is controlled by hormones
- Urine Production-_____
    - Water, small ions, by products of _____-, drugs, _____ are found in urine
- Ureters, _____ Urethra

    - Ureters: small tubes that carry _____ from renal pelvis of kidney to bladder
    - Urinary _____:
        - In _____ cavity
        - Stores _____
        - Can hold a few ml to a max. of _____
    - _____:
        - Tube that _____ bladder
        - Carries urine from urinary bladder to _____of body
- Renin-_____-Aldosterone Mechanism
    - Angiotensin II causes _____
    - Volume of water in urine _____
- _____ Hormone Mechanism
    - ADH is secreted by _____ pituitary gland
    - ADH acts of kidneys and they absorb _____ water (decrease urine volume)
    - Result is maintain blood _____and blood pressure
- _____Movement
    - _____: activated by stretch of urinary bladder wall
    - Action potentials are conducted from bladder to _____ through _____
    - _____ action potentials cause bladder to contract
    - Stretching of bladder _____ to inform brain person needs to urinate
- _____
    - Water intake is controlled by _____ in thirst center
    - Conc. of blood _____ thirst center responds by initiating sensation of thirst
    - When water is consumed, conc. of blood _____ and sensation of thirst decreases
- Regulation of Acid-Base Balance
    - _____
        - Chemicals resist _____ in pH of a sol'n
        - Buffers in body contain _____ of weak acids or bases that combine with H+
        - _____of buffers: proteins, phosphate buffer, bicarbonate buffer
    - _____System
        - Responds rapidly to change in_____
        - Increased _____ raise pH due to rate of carbon dioxide elimination being increased

        - Reduced respiratory rate _____ pH due to rate of carbon dioxide elimination being reduced
    - _____
        - Nephrons secrete _____ into urine and directly regulate pH of body fluids
        - _____if pH is decreasing and less H+ if pH is increasing
    - A_____ and Alkalosis
        - Acidosis occurs when pH of blood falls _____
            - 2 types are resp. _____ and metabolic acidosis
        - _____ occurs when pH of blood increases above 7.45