UNIT 6: PHYSIOLOGY
Chapter 32: Digestive and Excretory Systems

I. Nutrients and Homeostasis (32.1)

A. Six types of _____________ help to maintain homeostasis

1. ____________ - your body is made up of 55-60% water
   a. Water involved in almost every __________ reaction in body
   b. Helps digest food, eliminate wastes, maintain blood pressure, regulate body temperature, keep skin moist

2. Carbohydrates- main source of ____________ for your body
   a. ____________ carbohydrates- include sugar cane, honey, and fruits
   b. ____________ carbohydrates- starches found in vegetables, grains, and potatoes.
   c. Complex carbohydrates are broken down during digestion into simple sugars (______________)

3. ____________ - raw materials used for growth and repair of body’s cells and tissues
   a. Proteins make up all ____________ and many hormones
   b. Proteins composed of chains of ________ acids
   c. Essential amino acids (8)- cannot be made by your body and must come from ________ you eat

4. ____________ - provides energy and key components in cell membranes
   a. composed of long chains of fatty acids and glycerol molecules
   b. You body can make some fatty acids
   c. Other ______________ fatty acids come from foods you eat

5. ________________ - your body needs small amounts of minerals and vitamins to maintain homeostasis
a. Minerals- ________________ materials (I.e. calcium, sodium, potassium)

b. Must constantly replace because you lose them in ___________ and _____________

6. ________________- organic molecules that work with enzymes to regulate cell functions, growth, and development

   a. Fat soluble vitamins (A, D, E, and K)- stored in ___________ ______ for future use

   b. Water soluble vitamins (C, B)- cannot be stored and are _____________ in urine and feces.

B. Meeting nutritional needs supports good health

   1. Important to eat balanced ________.

   2. Food energy measured in _______________ (C) = 1000 calories

   3. Nutrition Labels- gives information about foods we eat

II. Digestive System (32.2)

A. Several digestive organs work together to break down food

   1. Digestion- process by which large molecules in food are broken down into smaller molecules that can be used by body

      a. Utilizes _______________, stomach acids, hormones, network of nerves and muscles.

      b. Nutrients are absorbed by body and transported by ___________________ system to all cells

   2. Takes about 24-33 hours per meal

B. Digestion begins in the ____________ and continues in the stomach

   1. Chemical digestion begins with ________________ in mouth (breaks down starches into sugar)

   2. Chewed food in mixed with saliva and travels down ________________ to stomach.

   C. ________________ continues digestion- digestive juices are “churned” to produce smaller pieces
1. Turns into liquid mixture called _____________

2. Stomach empties into **small intestine**

D. ________________ intestine- long narrow tube in which most digestion takes place

1. **Enzymes** from pancreas, and ________ from liver enter to help digestion

2. ________________ absorbed in **small intestine** (32.3)
   a. Lining of intestine is ridged and folded to increase **surface area** for ________________
   b. Folds covered with fingerlike projections called ________________

E. Water is **absorbed** and solid waste are eliminated by the ________________ intestine

1. Large intestine (colon)- ________________ about 1 liter of water a day.

2. Also contains many types of ________________

III. Excretory System (32.4)

A. The excretory system eliminates **nonsolid wastes** from the body

1. Eliminates ________________ wastes through **sweat**, **urine**, and **exhalation** to help maintain homeostasis
   a. Wastes include toxic materials, excess water, salts, CO₂, urea, minerals, and vitamins
   b. Main ________________ are skin, lungs, kidneys

2. ________________remove excess CO₂ and **water** vapor through exhalation

3. __________ releases excess **water** and __________

4. ________________ filter blood and produce **urine**
   a. ________________ - tube that carries urine to bladder
   b. ________________ - saclike organ that can store up to 1/2 liter of urine
c. Urine released through tube called ____________________

B. The kidneys help to maintain ____________________
(3 basic functions)

1. Remove waste products from __________ such as those produced from digestion and cellular respiration

2. Help to __________________ electrolyte, pH, and fluid balances in body

3. Release hormones that help keep bones healthy, produce red blood cells, and regulate blood pressure

C. Kidneys contain filtering units called ____________________
(about 1 million)

1. Filter about 180 liters every _______

2. Only about 1 percent excreted as __________________

D. Injury and _______________ can damage kidney functions

1. Can be damaged by infection, diabetes and high blood pressure

2. Only treatment for kidney failure are a kidney ________________ or use of _______________