

CORNELL NOTES

Directions: You must create a minimum of 5 questions in this column per page (average). Use these to study your notes and prepare for tests and quizzes. Notes will be stamped after each assigned sections (if completed) and turned in to your teacher at the end of the Unit for scoring.

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 you 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 is 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 **salts**

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 _____