

**SAVE THIS REVIEW SHEET**

**for the rest of the year!**

Living Environment Midterm Review

**PLEASE READ**

This packet summarizes the key ideas of the 2<sup>nd</sup> quarter. In addition to this review packet, study your 1<sup>st</sup> quarter cumulative exam review packet, all old tests, quizzes, notes and diagrams!

**Cell Respiration and Photosynthesis**

Why is cell respiration important to ALL living things?

In which cell organelle does cell respiration take place? \_\_\_\_\_

Write out the formula for **AEROBIC CELL RESPIRATION** below.

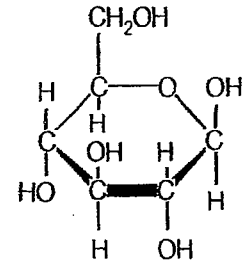
What are the reactants? \_\_\_\_\_

Products? \_\_\_\_\_

Which organisms perform this? \_\_\_\_\_

Write out the formula for **ANAEROBIC CELL RESPIRATION** below (2 types).

**ALCOHOLIC FERMENTATION:**



What are the reactants? \_\_\_\_\_

Products? \_\_\_\_\_

Which organisms perform this? \_\_\_\_\_

**LACTIC ACID FERMENTATION:**

What are the reactants? \_\_\_\_\_

Products? \_\_\_\_\_

Which organisms perform this? \_\_\_\_\_

Carbon dioxide is produced as a byproduct (waste) of cellular respiration. It is recycled in nature by which process? \_\_\_\_\_

Draw an ATP molecule here 

Write out the formula for **PHOTOSYNTHESIS** below.



What are the reactants? \_\_\_\_\_

Products? \_\_\_\_\_

Which organisms perform this? \_\_\_\_\_

In which organelle does this process take place? \_\_\_\_\_

All reactions require what type of protein catalyst? \_\_\_\_\_ Draw this into its appropriate position in each of the formulas you wrote above.

Draw a chloroplast below. Label *GRANA, STROMA, Thylakoid Disc!*

What is the difference between an autotroph and a heterotroph?

Why do you think plants are considered "self-sustaining"?

### **HUMAN BODY SYSTEMS**

The DIGESTIVE SYSTEM is associated with the life process \_\_\_\_\_ because its function is to...

\_\_\_\_\_

The CIRCULATORY SYSTEM is associated with the life process \_\_\_\_\_ because its function is to...

\_\_\_\_\_

The IMMUNE SYSTEM is associated with the life process \_\_\_\_\_ because its function is to...

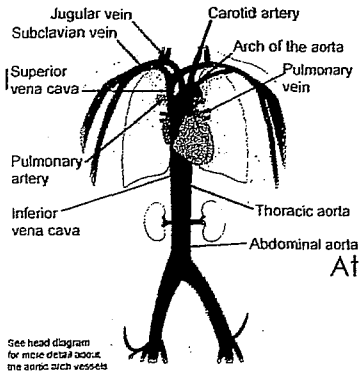
\_\_\_\_\_

The RESPIRATORY SYSTEM is associated with the life process \_\_\_\_\_ because its function is to...

\_\_\_\_\_



Describe how any two body systems work together to maintain homeostasis!



This picture represents the body system: \_\_\_\_\_  
 Its major structures are the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.  
 Which blood vessels lead to the heart? \_\_\_\_\_  
 Which blood vessels are the most muscular? \_\_\_\_\_  
 At which blood vessels do nutrients, oxygen and wastes diffuse into the blood?  
 \_\_\_\_\_

List the pathway that blood takes, starting and ending with the Right Atrium!

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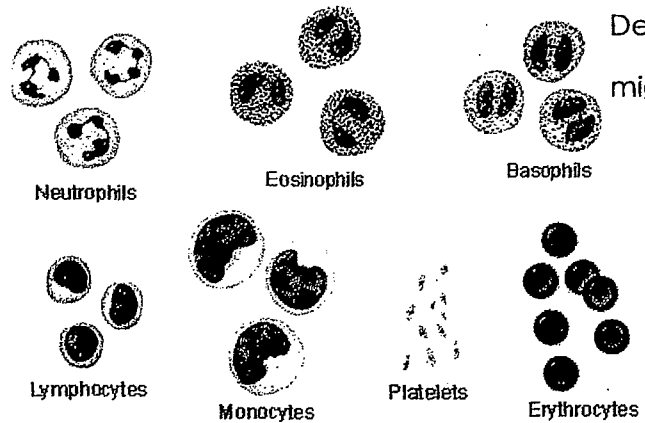


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Describe the main functions of the 4 major components of blood:

- Plasma:
- Platelets:
- Red Blood Cells:
- White Blood Cells:

This picture represents red blood cells, platelets and many different types of white blood cells!



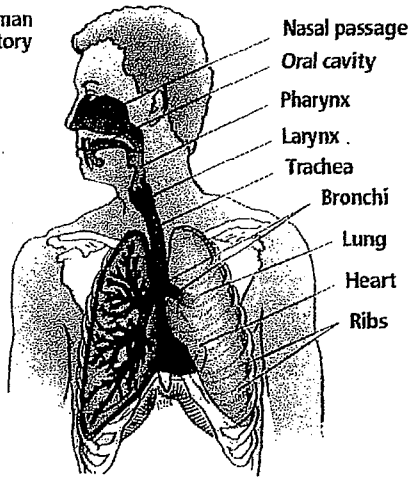
Describe 3 different jobs (functions) that White Blood Cells might perform:

Describe an immune response to a foreign substance. Use the terms **antigen**, **pathogen**, **engulf**, **antibodies**, **permanent immunity**.

What are the contents of a vaccine and how does it protect a person from infection?

What is the difference between passive and active immunity?

The Human Respiratory System



What types of blood vessels surround your alveoli? \_\_\_\_\_

Which part of the brain controls breathing rate? \_\_\_\_\_

An excess of which gas triggers your diaphragm to contract? \_\_\_\_\_

Which structure decreases pressure in your lungs causing air to rush in? \_\_\_\_\_

Which structure becomes infected during asthma? \_\_\_\_\_

Which structure becomes infected during allergies? \_\_\_\_\_

Which structure prevents a person from choking on food? \_\_\_\_\_

Where does the diffusion of oxygen and CO<sub>2</sub> take place? \_\_\_\_\_

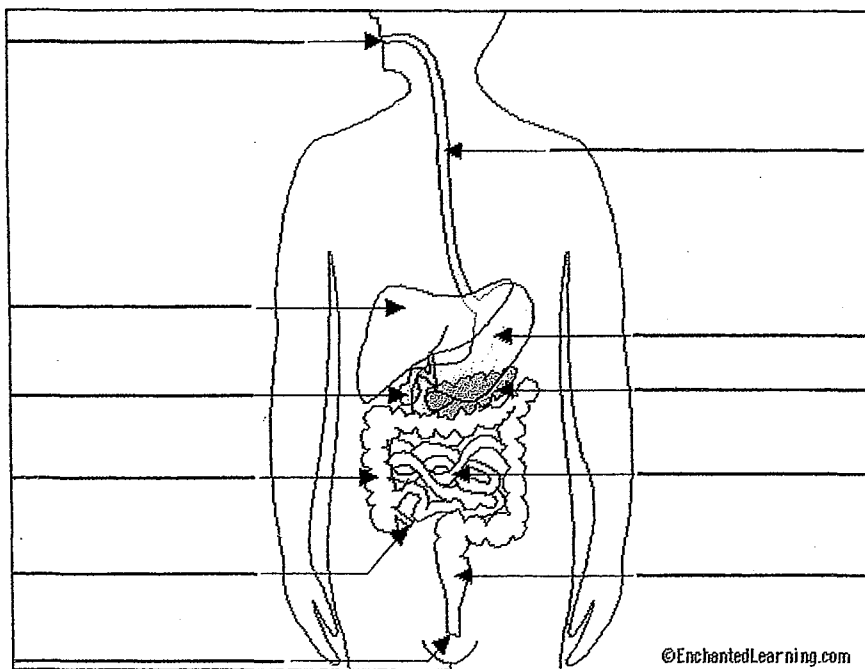
If this structure gets inflamed, you may lose your voice. \_\_\_\_\_

Another name for your throat area. \_\_\_\_\_

Describe the importance of cilia in your respiratory system.

What types of things can harm or damage your respiratory cilia?

DIGESTIVE SYSTEM (Label all organs)



Describe the process of digestion of a slice of **pepperoni pizza** as it passes from mouth to anus. Indicate where chemical and mechanical digestion of specific nutrients found in the pepperoni pizza occurs.

Mouth -

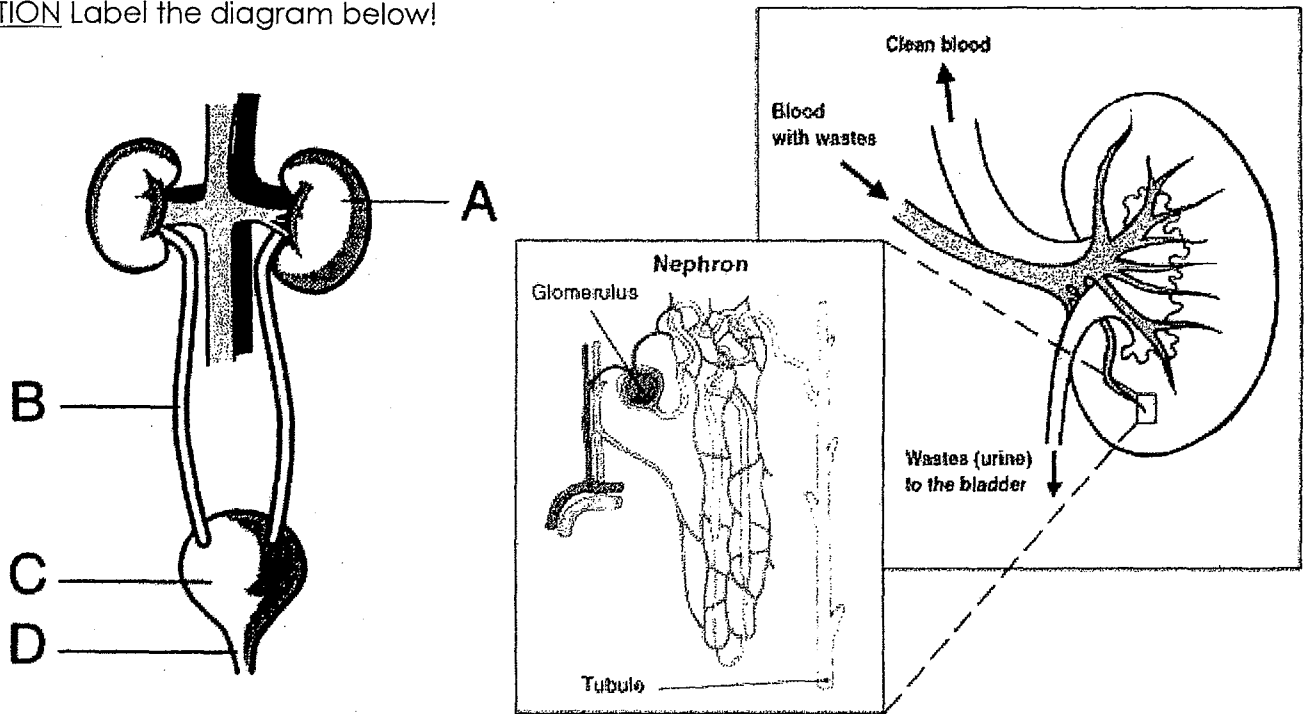
Esophagus -

Stomach -

Small Intestine (with help from liver, gall bladder and pancreas) -

Large Intestine -

EXCRETION Label the diagram below!



Many organs are involved with excretion. How is each involved with excretion?

**Lungs (Respiratory) –**

**Skin –**

**Liver –**

**Kidneys –**

Name 4 metabolic wastes that are excreted from the body.

The "functional unit" of the kidney is called the \_\_\_\_\_

This unit is composed of several parts with specific functions. Define each:

Glomerulus –

Bowman's Capsule –

Loop of Henle –

Collecting Duct –

**Malfunctions and Disorders** Name and describe 3 disorders/malfunctions of each body system.

**Digestive System**

Malfunction	Structure Affected	Description	Treatment or Prevention

**Circulatory System**

Malfunction	Structure Affected	Description	Treatment or Prevention

**Immune System**

Malfunction	Structure Affected	Description	Treatment or Prevention

**Respiratory System**

Malfunction	Structure Affected	Description	Treatment or Prevention

Which disorders can be controlled by proper diet, exercise and avoidance of toxic alcohol/cigarette smoke?

Name \_\_\_\_\_

**Instructions:** Working with your staff of doctors, offer a diagnosis and one possible treatment, prevention, or reason for each of the disorders described below. Here are your options:

**Asthma Heart Attack Stroke Ulcer Allergies Emphysema AIDS Bronchitis Anemia Viral Infection**



"Ooooooh...my stomach is killing me. It seems to happen when I eat pizza and drink orange juice and coffee, but sometimes just when I'm stressed out. I've been really stressed out lately."

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_



"Hey Doc. I've been having trouble breathing lately. It happens mostly when I'm walking my dog in the morning before work. I don't smoke and I'm not wheezing. But my new tenant smokes and I think its really bothering me. "

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_



"Hello Doctors. Since April, I've been really congested and my eyes are so itchy. They are really red and watery and I keep sneezing like crazy. Can you prescribe me some antihistamine? The over-the-counter stuff just isn't working so well."

Diagnosis: \_\_\_\_\_ Reason: \_\_\_\_\_



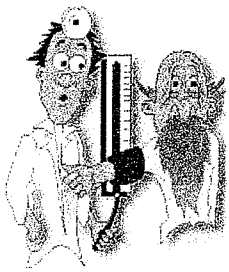
"Ooooooh...thanks for seeing me so last minute. I thought I had had a little cold, but now my glands are swollen, I have laryngitis and a bad fever. I feel so weak, I don't think I can make it to work. Why can't you just give me some antibiotics?"

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_



"I don't know what happened. I was running around my neighborhood, just trying to get a few extra miles in before the marathon. I've also been on the no-carb diet. All of a sudden I started runnin right into a fence and I couldn't control my movements. Now I feel like my hands are completely numb and I have a horrible headache "

Diagnosis: \_\_\_\_\_ Prevention: \_\_\_\_\_



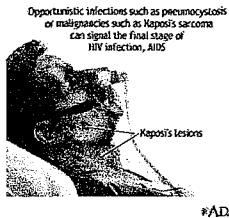
"Huh-a-huh. Ok, so my blood pressure is high. They've been telling me that for years. Well, since I was 16 when I started my Lucky Strikes. What's that? You hear a wheeze in my breathe? Huh-a-huh. I still don't know why I'm so tired and why my organs are starting to fail. I'm only 75. Don't I have a few more years doc? I guess those Lucky Strikes aren't so lucky.

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_



"Ooooooh...I can't stop coughing and it sounds like I'm a dying dog. I have chest pain deep down when I breathe and I had a cold that I just couldn't kick. Now I think its something worse. Well, Doc, I couldn't rest because I had basketball practice and two huge papers due for school. Plus, my friend's sweet sixteen was Friday."

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_



"I don't know what's wrong. I thought it was hepatitis, but now I seem to be getting all types of weird diseases and disorders. Seems like my immune system is just giving up on me. Yes, that's true. I've been using drugs intravenously since college, but I stopped 4 years ago. What do you think?"

Diagnosis: \_\_\_\_\_ Reason: \_\_\_\_\_

Prevention: \_\_\_\_\_



"My diet? Well, to be honest, I'm kind of busy, so mostly fast food, you know, Micky D's and Burger King. Taco Bell is my favorite. Veggies?? No way, are you crazy? No, I don't exercise. No time. I just love to play HALO after work and relax on the couch. I'm just so tired lately. Do you think I have mono or something?"

Diagnosis: \_\_\_\_\_ Prevention: \_\_\_\_\_



"Ooooooh...my chest feels so tight, like someone is sitting on me. I think it might be heartburn because its worse when I lay down. What? Oh it started about 2 hours ago. Yeah, I know I've gained some weight lately. Haven't been eating so well either."

Diagnosis: \_\_\_\_\_ Treatment: \_\_\_\_\_