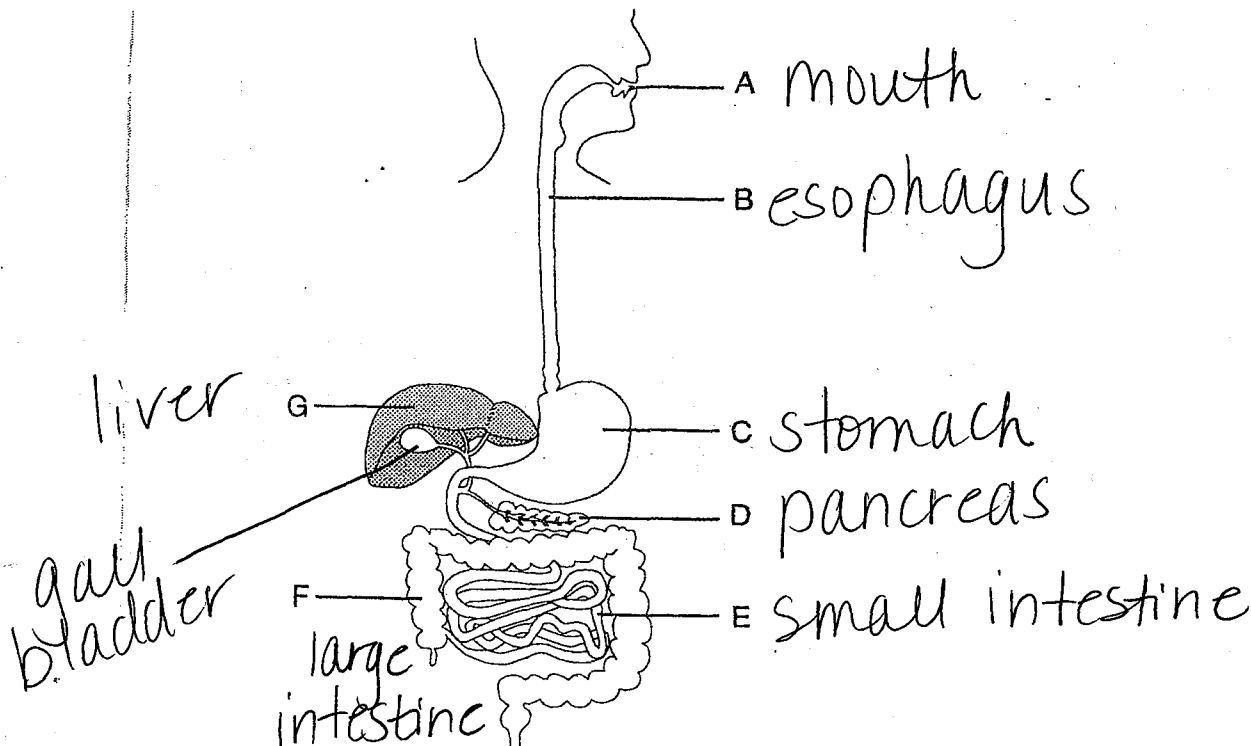


Name: Answer Key

Review Sheet - Digestion/Circulatory Test

DIGESTION

Label the diagram:



What is the role of the digestive system?

Break down food into nutrients that are useable by the cell.

List in order the sequence of digestive organs that food moves through during the process of digestion:

Mouth → esophagus → stomach → small intestine → large intestine

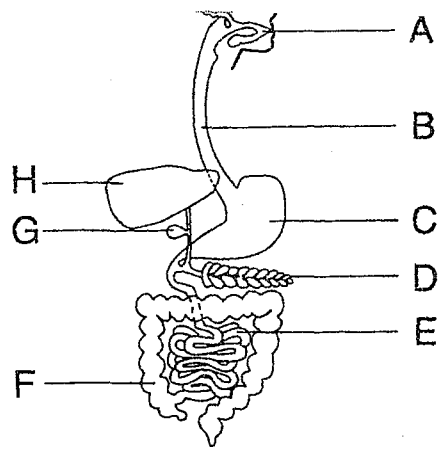
Explain the job of each of the following accessory organs:

- Salivary glands- produces salivary amylase
- Liver- produces bile
- Bile- emulsifies fats
- Gall Bladder- stores bile

Name the enzyme produced by each of the following and the organic compound it breaks down:

	Enzyme	Organic Compound
Mouth:	salivary amylase	starch → glucose
Stomach:	pepsin	proteins → amino acids
Pancreas: (3)	amylase	starch → glucose
	protease	proteins → amino acids
	lipase	lipids → fatty acids + glycerol
Where does the breakdown of starch begin?	mouth	
Where does the breakdown of protein begin?	stomach	
Where does the breakdown of fats begin?	small intestine	
Where is all digestion completed?	small intestine	
Where do nutrients get into the circulatory system?	villi	
What is the name of the process that accomplishes this?	diffusion	

In humans, villi that absorb monosaccharides and amino acids are found within the
 1) pancreas
 2) esophagus
 3) small intestine
 4) stomach

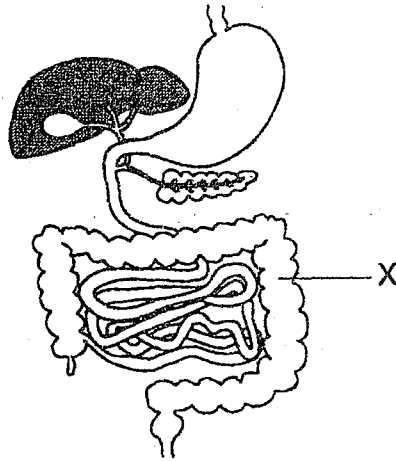


From which structure are glucose and amino acids normally absorbed into the circulatory system?

1) F
 2) H
 3) C
 4) E

What is the role of the large intestine?

Absorbs water



The principal function of structure X is to

- 1) secrete sex hormones
- 2) absorb water
- 3) digest bile
- 4) produce salivary enzymes

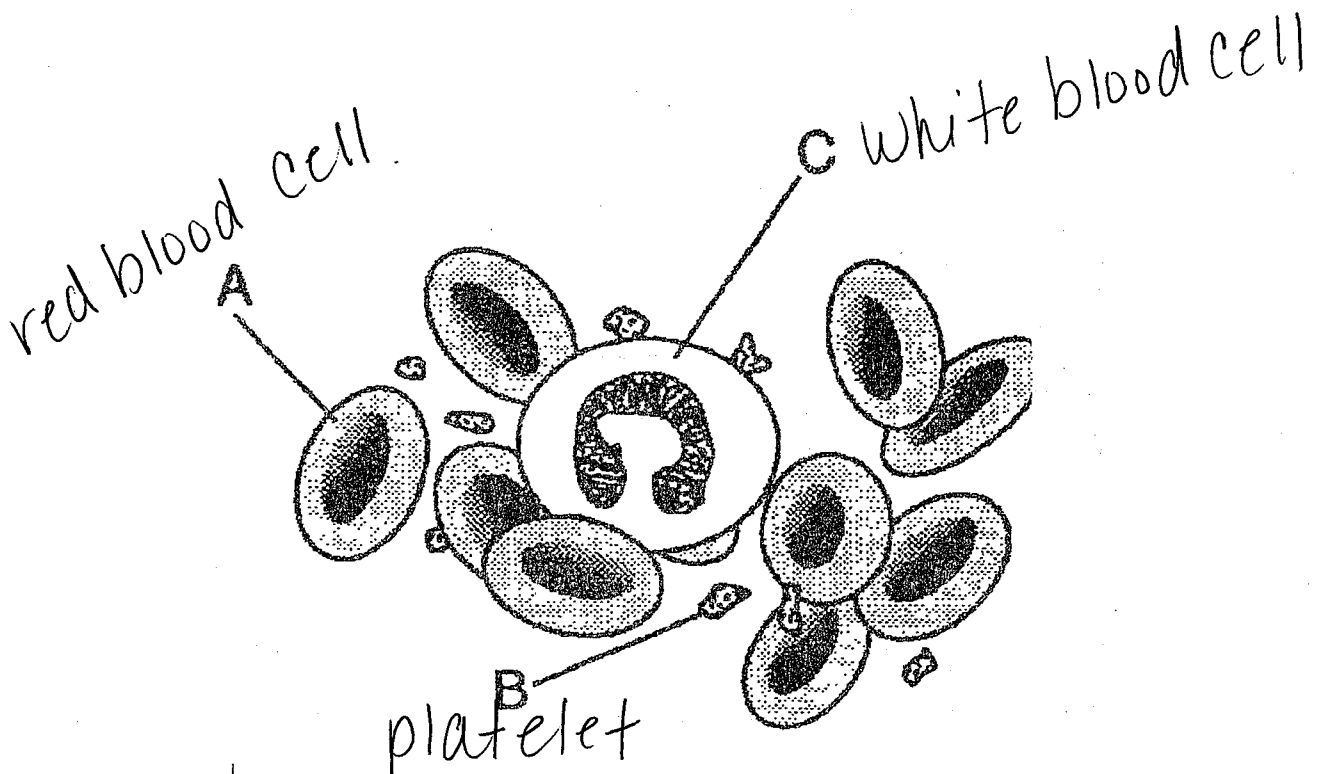
Name 2 disorders of the digestive system and explain how homeostasis fails.

1. diarrhea - too little water absorbed by the large intestine. Leads to watery feces & dehydration.
2. constipation - too much water absorbed by the large intestine → hard feces difficult to eliminate from the body.

CIRCULATION

Identify the 4 components of blood and explain the function.

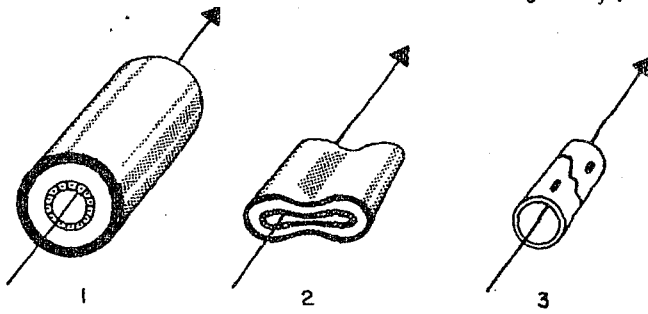
1. Red blood cells - contain hemoglobin, carry oxygen.
2. White Blood Cells - produce antibodies, fight infection.
3. Platelets - involved in blood clotting.
4. Plasma - liquid portion of the blood, carries nutrients, hormones, waste



- (1) Both *A* and *B* function in immune responses, and *C* transports oxygen.
- (2) *A*, *B*, and *C* are able to synthesize hemoglobin.
- (3) Both *B* and *C* provide immunity, and *A* transports nutrients.
- ④ *A* transports oxygen, *B* initiates clots, and *C* functions in immune responses.

Identify the 3 types of blood vessels and explain the function.

1. Arteries - carry blood away from the heart, thick walls.
2. Veins - carry blood toward the heart, contain valves to prevent backflow of blood.
3. Capillaries - one cell thick, allow for exchange of gases and nutrients with cells.



Which vessel contains valves and transports blood back to the heart?

- 1) 1 3) 3
 2

Through the walls of which vessel does gas exchange occur?

- 1) 1 3) 3
 2) 2

How many chambers are in the heart? 4

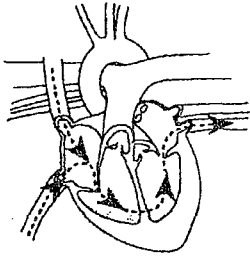
What are the structures in the heart that prevent the backflow of blood? Valves

Explain the order that blood will flow through the structures of the heart starting with the Vena Cava:

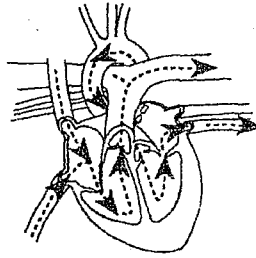
Vena Cava → right atrium → right ventricle → pulmonary artery → lungs → pulmonary veins → left atrium → left ventricle → aorta → body tissues

In which heart diagram do the arrows correctly represent the path of blood flow?

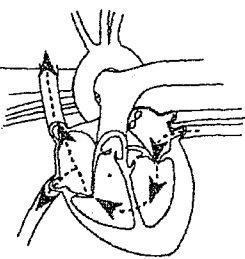
1)



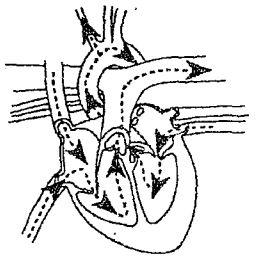
3)



2)



4)



Identify 2 circulatory disorders and explain how homeostasis fails.

1. hemophilia - inability to clot blood, excessive bleeding.
2. sickle cell anemia - red blood cells are shaped like crescents