

# Conceptual Biology

## Chapter 14: Maintaining the Body

### Circulatory System

Fill in the blanks:

1. Each heartbeat begins in a part of the right atrium called the sinoatrial node,  
or pacemaker.

The pacemaker starts an action potential that sweeps quickly through two chambers of the heart, the right atrium and left atrium, which contract simultaneously.

The signal also travels to the atrioventricular node, and from there to the other two chambers of the heart, the right ventricle and left ventricle.

These two chambers also contract simultaneously.



2. a. The sound of a heartbeat is “lub-dubb, lub-dubb.” What is the “lub”?

The “lub” is the sound of valves between the atria and ventricles snapping shut after the two atria contract.

- b. What is the “dubb”?

The “dubb” is the sound of the valves between the ventricles and blood vessels snapping shut after the contraction of the ventricles.

3. The three types of cells found in blood are red blood cells,  
white blood cells, and platelets.

Red blood cells transport oxygen to the body’s tissues.

White blood cells are part of the immune system and help our bodies defend against disease. Platelets are involved in blood clotting.

4. The molecule in red blood cells that carries oxygen is called hemoglobin.

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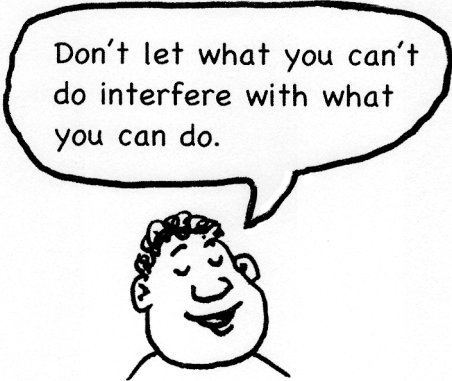
## Chapter 14: Maintaining the Body

### *Circulatory System—continued*

Number from 1 to 9:

5. In what order does blood flow around the body? Begin with the right atrium.

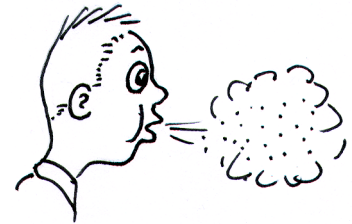
- 3 \_\_\_\_\_ Arteries to lungs
- 1 \_\_\_\_\_ Right atrium
- 5 \_\_\_\_\_ Left atrium
- 9 \_\_\_\_\_ Veins from body tissues
- 4 \_\_\_\_\_ Veins from lungs
- 8 \_\_\_\_\_ Capillaries near body tissues
- 7 \_\_\_\_\_ Arteries to body tissues
- 2 \_\_\_\_\_ Right ventricle
- 6 \_\_\_\_\_ Left ventricle



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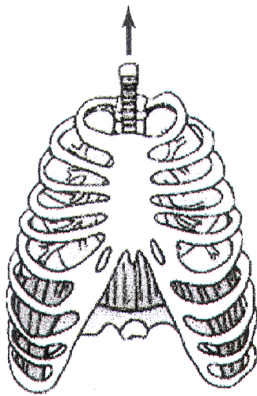
### Respiratory System



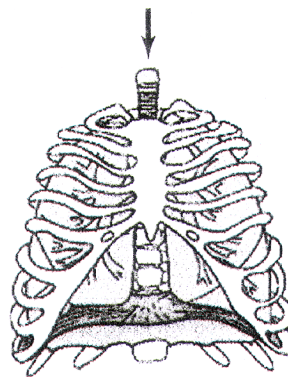
1. Match each part of the respiratory system with its description.

- |                |                |   |
|----------------|----------------|---|
| Nasal passages | <u>e</u> _____ | a. Where gas exchange occurs                    |
| Larynx         | <u>c</u> _____ | b. Another word for trachea                     |
| Trachea        | <u>h</u> _____ | c. Structure allows us to speak                 |
| Alveoli        | <u>a</u> _____ | d. Raises the ribcage when we inhale            |
| Diaphragm      | <u>f</u> _____ | e. Smelling happens here                        |
| Rib muscles    | <u>d</u> _____ | f. Dome-shaped muscle helps us inhale           |
| Bronchi        | <u>g</u> _____ | g. Tubes that go to the right and left lungs    |
| Windpipe       | <u>b</u> _____ | h. A short tube stiffened by rings of cartilage |

2. Which figure shows a person inhaling? Which figure shows a person exhaling?



a. exhaling \_\_\_\_\_



b. inhaling \_\_\_\_\_

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### Digestion

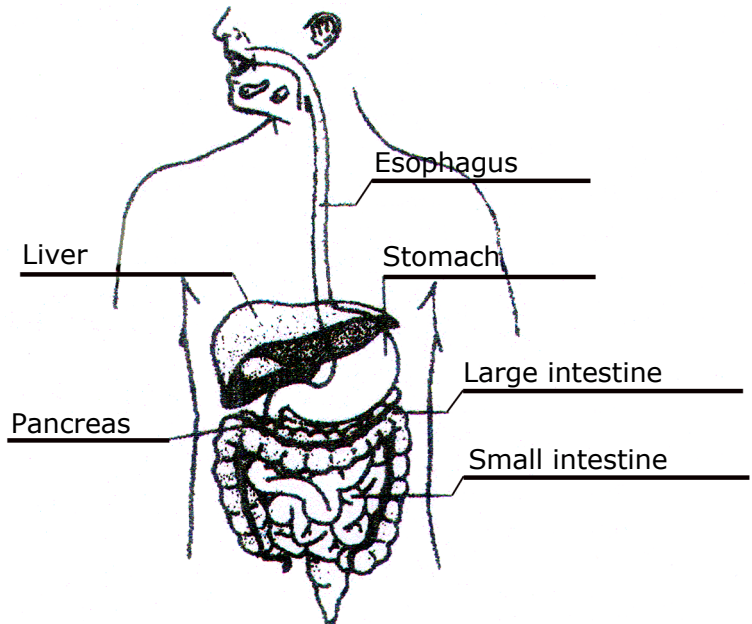
1. Why do we have to digest our food?

Food has to be broken down into smaller organic molecules that can be absorbed and used by the body.



2. Label the parts of the digestive system using the following terms:

- Stomach
- Liver
- Pancreas
- Small intestine
- Esophagus
- Large intestine



3. Where does each of the following events important in digestion occur?

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>a. <u>Liver</u> _____</li> <li>b. <u>Stomach</u> _____</li> <li>c. <u>Small intestine</u> _____</li> <li>d. <u>Mouth</u> _____</li> <li>e. <u>Large intestine</u> _____</li> <li>f. <u>Stomach</u> _____</li> <li>g. <u>Mouth</u> _____</li> <li>h. <u>Small intestine</u> _____</li> <li>i. <u>Large intestine</u> _____</li> </ul> | <ul style="list-style-type: none"> <li>Bile is made</li> <li>A highly acidic mix of hydrochloric acid and digestive enzymes is added</li> <li>Most nutrients are absorbed into the body</li> <li>Food is chewed and broken into smaller pieces</li> <li>Water is absorbed</li> <li>Muscular churning of food</li> <li>Saliva begins digesting starches in our food</li> <li>Enzymes from the pancreas help with digestion</li> <li>Vitamins K and B are made by bacteria</li> </ul> |
|---|---|