

Chapter 37

Respiration, Circulation, and Excretion

Reinforcement and Study Guide

Section 37.1 The Respiratory System

In your textbook, read about air passageways and lungs.

Circle the letter of the choice that best completes the statement or answers the question.

- During the process of respiration,
 - oxygen is delivered to body cells.
 - oxygen is used in cells to produce ATP.
 - carbon dioxide is expelled from the body.
 - all of these.
- When you swallow, your epiglottis momentarily covers the top of the trachea so that
 - you can swallow more easily.
 - you can breathe more easily.
 - you don't get food in your air passages.
 - you can cough up foreign matter.
- The cilia that line your trachea and bronchi
 - produce dirt-trapping mucus.
 - help in the exchange of oxygen and CO₂.
 - move mucus and dirt upward.
 - only beat when you inhale.
- The first branches off the trachea are called
 - bronchioles.
 - bronchi.
 - arterioles.
 - alveoli.
- Inside the alveoli, carbon dioxide and oxygen
 - are exchanged between air and blood.
 - are transported along microscopic tubules.
 - are produced inside cells.
 - are exchanged for other gases.
- Which is the correct sequence for the path of oxygen through the respiratory system?
 - nasal passages, bronchi, trachea, bronchioles, cells, blood, alveoli
 - cells, blood, alveoli, bronchioles, bronchi, trachea, nasal passages
 - nasal passages, blood, alveoli, bronchi, cells, trachea, bronchioles
 - nasal passages, trachea, bronchi, bronchioles, alveoli, blood, cells

In your textbook, read about the mechanics of breathing and the control of respiration.

For each statement below, write true or false.

- _____ 7. Homeostasis in respiration is controlled by the cerebrum.
- _____ 8. As you exhale, the bronchioles in the lungs release most of their air.
- _____ 9. When you inhale, the muscles between your ribs contract.
- _____ 10. Relaxation of the diaphragm causes a slight vacuum in the lungs.
- _____ 11. Air rushes into the lungs because the air pressure outside the body is greater than the air pressure inside the lungs.
- _____ 12. Relaxation of the diaphragm causes it to flatten.

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Section 37.2 The Circulatory System

In your textbook, read about your blood, ABO blood types, and blood vessels.

Answer the following questions.

1. What cells and substances would you expect to find suspended or dissolved in plasma?

2. How is carbon dioxide transported in blood?

Complete the table below by checking the correct column for each description.

Description	Red Blood Cells	White Blood Cells	Platelets
3. Contain hemoglobin			
4. Fight infection			
5. Lack a nucleus			
6. Help clot blood			
7. Transport oxygen			
8. Comparatively large and nucleated			

For each statement below, write true or false.

- _____ 9. Your blood type can be changed with a blood transfusion.
- _____ 10. Different blood types result from different antibodies being present on the membranes of red blood cells.
- _____ 11. If you have type B blood, then you have anti-A antibodies in your plasma.
- _____ 12. Risks involving incompatible Rh factors are greatest for a woman's first child.

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Section 37.2 The Circulatory System

In your textbook, read about your heart, blood's path through the heart, and inside your heart.

Label the parts of the human heart in the diagram below. Use these choices:

aorta

left atrium

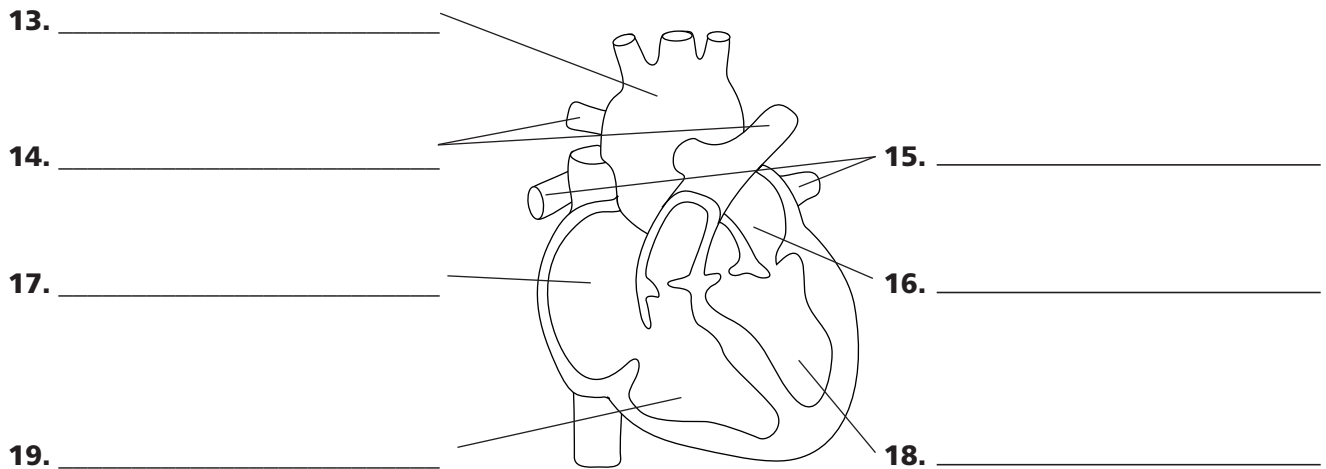
left ventricle

pulmonary arteries

pulmonary veins

right atrium

right ventricle



20. Where does blood go from the pulmonary veins? From the right ventricle? From the left ventricle?

21. What prevents blood from mixing between atria and ventricles?

In your textbook, read about heartbeat regulation, control of the heart, and blood pressure.

Determine if the statement is true. If it is not, rewrite the italicized part to make it true.

22. The surge of blood through an artery is called the *cardiac output*. _____

23. The pacemaker initiates heartbeats *by generating electrical impulses*. _____

24. An electrocardiogram is a record of *the strength of each heartbeat*. _____

25. The *atrioventricular node*, along with sensory cells in arteries near the heart, regulates the pacemaker.

26. *Diastolic pressure* occurs when the heart's ventricles contract. _____