Circulatory Systems

Name: _____ **Date:** _____

Quick Review

A **circulatory system** transports substances around an organism.

In humans, the major components are:

- **Heart** — pumps blood.
- **Blood** — transports substances.
- **Blood vessels** — carry blood throughout the body.

The circulatory system transports substances such as **oxygen, nutrients, hormones, carbon dioxide, and wastes**.

Multiple Choice

1. What is the main purpose of a circulatory system?

A. To digest food
B. To transport substances around the body
C. To produce movement
D. To control reproduction

2. Which organ pumps blood around the human body?

A. Lung
B. Kidney
C. Heart
D. Stomach

3. Which is NOT a major component of the human circulatory system?

A. Heart
B. Blood
C. Blood vessels
D. Stomach

4. Which substance is transported from the lungs to body cells?

A. Oxygen
B. Carbon dioxide
C. Urine
D. Undigested food

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5. Which waste gas is transported from body cells toward the lungs?

A. Oxygen
B. Nitrogen
C. Carbon dioxide
D. Hydrogen

6. Humans have which type of circulatory system?

A. Open
B. Closed
C. No circulatory system
D. Partially open

Match the Component

Match each component with its main function.

A. Heart
B. Blood
C. Blood vessels

_____ Carries oxygen, nutrients, hormones, and wastes.

_____ Pumps blood around the body.

_____ Forms pathways through which blood travels.

Open or Closed?

Write **open** or **closed** for each description.

1. Circulating fluid remains inside vessels.

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2. Circulating fluid directly surrounds many organs.

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3. Humans have this type of circulatory system.

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4. This system generally allows blood to be transported at higher pressure.

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Compare the Systems

Complete the table.

Feature	Open Circulatory System	Closed Circulatory System
Fluid stays inside vessels	_____	_____
Fluid directly bathes organs	_____	_____
Example	Insects	_____
Usually higher pressure	_____	_____

Transport Around the Body

Complete each sentence using the words below.

oxygen — nutrients — carbon dioxide — hormones — wastes

1. Blood carries _____ from the lungs to body cells.

2. Digested _____ are transported to cells where they can be used.

3. Blood carries _____ from body cells toward the lungs.

4. Chemical messages called _____ can be transported in the blood.

5. The circulatory system helps transport _____ to organs that remove them from the body.

Apply Your Knowledge

A student is running during a physical education lesson. The student's muscle cells need more oxygen and nutrients and produce more carbon dioxide.

1. Which system transports oxygen to the muscle cells?

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2. Which organ pumps the blood?

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3. What carries the blood to and from the muscles?

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4. What waste gas must be transported away from the muscle cells?

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Circulation and Homeostasis

Homeostasis is the maintenance of stable internal conditions in the body.

1. Give one example of a substance that the circulatory system delivers to cells.

2. Give one example of a waste that the circulatory system carries away from cells.

3. How does transporting these substances help cells remain healthy?

Explain Your Thinking

1. Why would a large animal need an efficient circulatory system instead of relying only on diffusion?

2. Explain one important difference between an open and a closed circulatory system.

3. Explain how the heart, blood, and blood vessels work together.

Exit Ticket

1. What are the three major components of the human circulatory system?

_____, _____, _____

2. Is the human circulatory system open or closed?

3. Name two substances transported by the blood.

_____ and _____

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