The Heart and Blood Vessels

Name: _____ **Date:** _____

Quick Review

The **heart** is a muscular organ that pumps blood through the circulatory system.

The four chambers of the heart are:

- **Right atrium**
- **Right ventricle**
- **Left atrium**
- **Left ventricle**

Blood vessels carry blood around the body:

- **Arteries** carry blood **away from the heart**.
- **Veins** carry blood **toward the heart**.
- **Capillaries** are tiny vessels where substances are exchanged between the blood and tissues.

Part A — Multiple Choice

1. Which chamber receives blood returning from the body?

A. Left atrium
B. Right atrium
C. Left ventricle
D. Right ventricle

2. Which chamber pumps blood toward the lungs?

A. Right ventricle
B. Right atrium
C. Left ventricle
D. Left atrium

3. Which chamber receives oxygen-rich blood from the lungs?

A. Right atrium
B. Right ventricle
C. Left atrium
D. Left ventricle

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4. Which chamber pumps blood to the rest of the body?

A. Right atrium
B. Left atrium
C. Right ventricle
D. Left ventricle

5. Which blood vessels carry blood away from the heart?

A. Veins
B. Arteries
C. Capillaries
D. Valves

6. Where does most exchange between the blood and body tissues occur?

A. Arteries
B. Veins
C. Capillaries
D. Heart chambers

Part B — Match the Structure and Function

A. Right atrium
B. Right ventricle
C. Left atrium
D. Left ventricle
E. Artery
F. Vein
G. Capillary

_____ Pumps blood to the lungs.

_____ Receives oxygen-rich blood from the lungs.

_____ Carries blood toward the heart.

_____ Pumps blood to the body.

_____ Receives blood returning from the body.

_____ Carries blood away from the heart.

_____ Allows substances to be exchanged with body tissues.

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Part C — Follow the Blood

Complete the pathway using the terms below.

right atrium — right ventricle — lungs — left atrium — left ventricle — body

Body → _____ → _____ → _____ → _____ → _____ → **Body**

Think About It

What happens to the blood while it is in the lungs?

Part D — Compare Blood Vessels

Complete the table.

Feature	Arteries	Veins	Capillaries
Carry blood toward or away from heart?	_____	_____	Between arteries and veins
Wall thickness	_____	Thinner	Very thin
Blood pressure	Higher	_____	Low
Valves usually present?	No	_____	No
Main function	_____	Return blood to heart	_____

Part E — The Heart as a Pump

Fill in the blanks using the words below.

contracts — relaxes — pressure — blood — muscles

The heart is made mostly of cardiac _____.

When the heart _____, it pushes _____ out of its chambers.

When the heart _____, its chambers can fill again.

The pumping action of the heart creates _____ that helps move blood through the blood vessels.

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The Heart and Blood Vessels

Part F — Apply Your Knowledge

1. Why does the left ventricle need a thick muscular wall?

2. A blood vessel has thick, muscular walls and carries blood away from the heart. What type of vessel is it?

3. A blood vessel has very thin walls that allow oxygen and nutrients to move into nearby cells. What type of vessel is it?

4. Why are valves useful in many veins?

Part G — Blood Pressure and Circulation

1. What produces the pressure that moves blood through the circulatory system?

A. Digestion
B. Contraction of the heart
C. Breathing only
D. Movement of bones

2. Why is blood pressure important?

A. It helps keep blood moving through the body.
B. It stops blood from reaching organs.
C. It changes arteries into veins.
D. It prevents the heart from contracting.

3. What could happen if an organ did not receive enough blood?

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The Heart and Blood Vessels — Answer Key

Part A — Multiple Choice

1. **B — Right atrium**
2. **A — Right ventricle**
3. **C — Left atrium**
4. **D — Left ventricle**
5. **B — Arteries**
6. **C — Capillaries**

Part B — Match the Structure and Function

1. **B — Right ventricle** — Pumps blood to the lungs.
2. **C — Left atrium** — Receives oxygen-rich blood from the lungs.
3. **F — Vein** — Carries blood toward the heart.
4. **D — Left ventricle** — Pumps blood to the body.
5. **A — Right atrium** — Receives blood returning from the body.
6. **E — Artery** — Carries blood away from the heart.
7. **G — Capillary** — Allows substances to be exchanged with body tissues.

Part C — Follow the Blood

Body → Right atrium → Right ventricle → Lungs → Left atrium → Left ventricle → Body

Think About It:
In the lungs, blood **releases carbon dioxide and picks up oxygen**.

Part D — Compare Blood Vessels

Feature	Arteries	Veins	Capillaries
Carry blood toward or away from heart?	**Away**	**Toward**	**Between arteries and veins**
Wall thickness	**Thick**	**Thinner**	**Very thin**
Blood pressure	**Higher**	**Lower**	**Low**
Valves usually present?	**No**	**Yes**	**No**
Main function	**Carry blood away from heart**	**Return blood to heart**	**Exchange substances with tissues**

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The Heart and Blood Vessels

Part E — The Heart as a Pump

The heart is made mostly of cardiac **muscle**.

When the heart **contracts**, it pushes **blood** out of its chambers.

When the heart **relaxes**, its chambers can fill again.

The pumping action of the heart creates **pressure** that helps move blood through the blood vessels.

Part F — Apply Your Knowledge

1. Why does the left ventricle need a thick muscular wall?
It must produce enough force and pressure to **pump blood throughout the entire body**.

2. Thick, muscular walls and carries blood away from the heart:
Artery

3. Very thin walls that allow oxygen and nutrients to move into nearby cells:
Capillary

4. Why are valves useful in many veins?
They **prevent blood from flowing backward** and help maintain blood flow toward the heart.

Part G — Blood Pressure and Circulation

1. B — Contraction of the heart

2. A — It helps keep blood moving through the body.

3. What could happen if an organ did not receive enough blood?
The cells would receive **less oxygen and fewer nutrients** and would have difficulty removing wastes. If blood flow remains too low, cells may become damaged or die.

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