

Activity 4.3.1 Show What I Know**Purpose**

As you discovered in the dissection activities in *Lesson 4.2 Putting the Puzzle Together*, there are many systems, parts, and functions within an animal's body. While you primarily studied anatomy or the parts in that lesson, the physiology of those parts is also essential in your quest to become an animal scientist. Physiology is the study of the function of plant and animal bodies, systems, organs, tissues, and cells.

The respiratory and circulatory systems are closely related in their functions in a body. These systems are essential to animal life. The respiratory system exchanges oxygen from the air with carbon dioxide, the product of respiration, to maintain a balance in the body. The circulatory system uses blood to serve as a carrier of oxygen (O₂) and carbon dioxide (CO₂) from cells to the lungs. How well do you know the respiratory and circulatory systems?

Materials**Per student:**

- 2 colored pencils
- Pencil
- *Agriscience Notebook*

Procedure

This activity reviews the anatomy of the respiratory and circulatory systems and defines the major functions of each part in preparation for a more in depth study of these systems.

Part One – What I Know

1. Using one of the colored pencils provided, label the diagrams on *Activity 4.3.1 Student Worksheet* and describe the function of each to the best of your ability.
2. Use the color key to identify how you use each color for future reference in this activity.

| Color Key | |
|---------------------------|--|
| What I Know | |
| Additions and Corrections | |

| Parts of the Circulatory and Respiratory Systems | |
|--|-----------------|
| Alveoli | Lung |
| Aorta | Nasal Cavity |
| Artery | Nose/Mouth |
| Bronchiole | Pharynx |
| Bronchus (bronchi) | Right atrium |
| Capillary | Right ventricle |
| Larynx | Trachea |
| Left atrium | Vein |
| Left ventricle | Vena cava |

Name: _____

Activity 4.3.1 Student Worksheet

Table 1. The Respiratory System

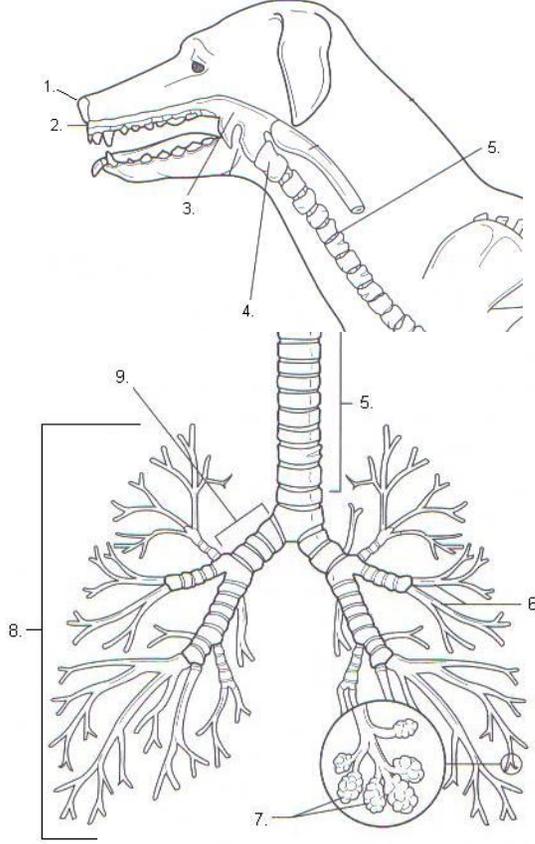
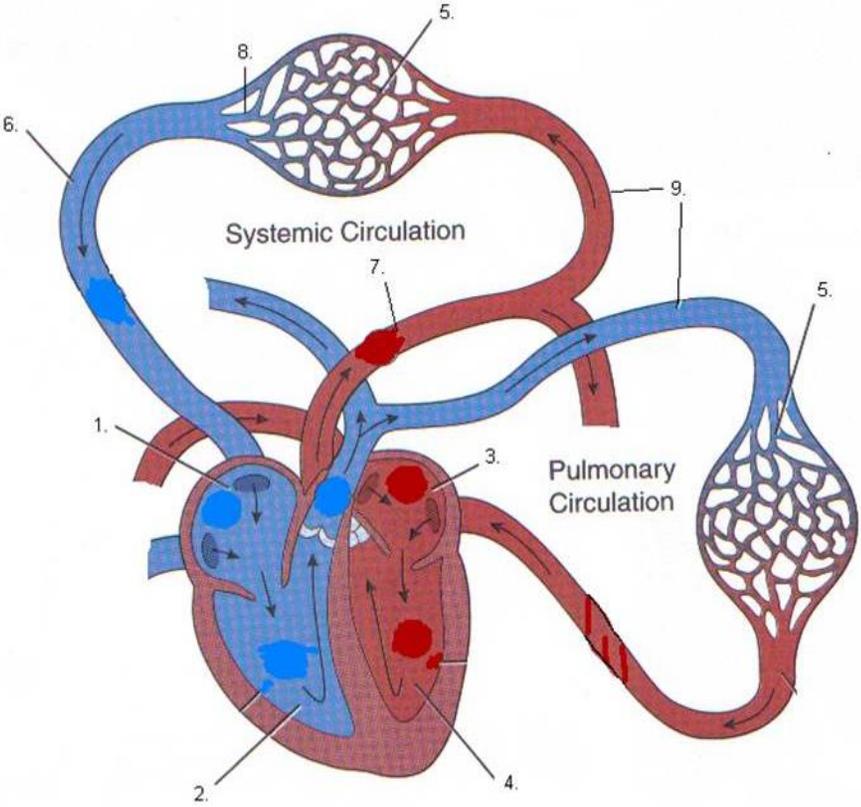
| Diagrams | Part | Function |
|--|------|----------|
|  | 1. | |
| | 2. | |
| | 3. | |
| | 4. | |
| | 5. | |
| | 6. | |
| | 7. | |
| | 8. | |
| | 9. | |

Table 2. The Circulatory System

| Diagram | Part | Function |
|--|------|----------|
|  <p>The diagram illustrates the circulatory system with a four-chambered heart. The right side of the heart (blue) receives deoxygenated blood from the body (part 1) and pumps it to the lungs (part 2). The left side of the heart (red) receives oxygenated blood from the lungs (part 3) and pumps it to the rest of the body (part 4). Two capillary beds are shown: one at the top (part 8) and one at the bottom (part 5). Arrows indicate the direction of blood flow. Labels 'Systemic Circulation' and 'Pulmonary Circulation' are present. Numbered parts 1-9 are distributed across the heart and vessels.</p> | 1. | |
| | 2. | |
| | 3. | |
| | 4. | |
| | 5. | |
| | 6. | |
| | 7. | |
| | 8. | |
| | 9. | |

Sources:

Lawhead, J., & Baker, M. (2005). *Introduction to veterinary science*. Clifton Park, NY: Delmar.

Romich, J.A. (2006). *An illustrated guide to veterinary medical terminology* (2nd ed.). Clifton Park, NY: Thompson Delmar Learning.