

TEKS

- 4B** Investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules
- 5B** Examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium
- 10A** Describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals
- 10C** Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system

instructional content:

- ✦ Function of Circulatory System
- ✦ Components of Blood
 - Types of Cells
 - Plasma
- ✦ Types of Blood Vessels
- ✦ Structure of Heart
 - Blood Flow
 - Two Pathways
- ✦ Function of Respiratory System
- ✦ Anatomy of Respiratory System
 - Path of Air
 - Gas Exchange
- ✦ Interactions of Circulatory and Respiratory Systems in Homeostasis

learning outcomes students will:

- Use all content and scientific process skills learned earlier in the course
- State the function of the circulatory and respiratory systems
- Identify the main substances transported by blood
- Describe the components of blood and state the function of each
- Compare the structures and functions of the three types of blood vessels.
- Summarize the path that blood flows through the heart
- Distinguish pulmonary circulation from systemic circulation
- Explain why blood flows in a one way path through the heart
- Summarize the path that air follows as it enters the body
- Describe how the diaphragm and rib muscles are involved in breathing
- Explain how diffusion allows for gas exchange in the alveoli
- Explain how the circulatory and respiratory system interact to maintain homeostasis



Incorporate scientific process skills during the instruction of all Biology concepts.
Look for this icon at wardsci.com/TEKS for more information on scientific process skills.

Recommended Ward's Science products with item numbers for easy online searching:

science tools:

Basic Heart Model **810910**
 3B® Youth Heart Model **813010**
 Ward's Student Classroom Dissection Set **149999**
 Ward's DataHub: Biology/Chemistry **9200503**
 Ward's DataHub Universal Sensor Adapter **9200514**
 Vernier EKG Sensor **175277**
 Vernier Gas Pressure Sensor **175279**
 Vernier Oxygen Sensor **175284**
 Vernier Respiration Monitor Belt **175286**
 Vernier Spirometer **175287**

Bowles Stethoscope **158840**
 Student Blood Pressure Set **6066810**
 White Blood Cell (sm) Human **936539**
 Human Blood (sm) wr **936540**
 Ward's Simulated ABO Blood Typing Lab Activity **360022**
 Lung Demonstration Apparatus **6227600**
 Functional Lung Model **817000**
 Altay® Lung Pathology Model **813357**
 Lung Volume Bag Set **145051**
 Spirometer **145072**

instructional resources:

3B® Anatomical Charts **330658**
 Visual Learning Guides: Human Body **330477**
 Ward's Sheep Heart Dissection Lab **622090**
 Human Heart Walk-Thru **177064**