

Unit 07: Anatomy and Physiology Cardiovascular

Content Area: **Science**
Course(s): **Generic Course**
Time Period: **Marking Period 3**
Length: **4 weeks**
Status: **Published**

Standards

LS1.A: Structure and Function (pp. 143-145, NRC, 2012)

- [Systems of specialized cells within organisms help them perform the essential functions of life. \(HS-LS1-1\)](#)
- [Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. \(HS-LS1-2\)](#)
- [Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage \(through positive feedback\) or discourage \(negative feedback\) what is going on inside the living system. \(HS-LS1-3\)](#)

SCI.9-12.HS-LS1-1	Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins, which carry out the essential functions of life through systems of specialized cells.
SCI.9-12.HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
SCI.9-12.HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

Essential Questions

How are the components of blood important to maintain life?

Why is the heart an essential part of the cardiovascular system?

Content / Skills

- Compare and contrast the structure and function of the right and left chambers of the heart as they relate to the flow of blood
- Describe the ABO blood types and Rh factor
- Describe the coronary artery system, heart disease and methods to correct heart problems
- Describe the electrophysiology of the heart
- Describe the shape, size and location of the heart
- Describe the structure and function of whole blood
- Discuss the composition and functions of plasma
- Discuss the problems associated with Rh factor and pregnancy
- Explain the relationship between blood flow and blood pressure
- List the formed elements in blood
- List the functions of blood
- Name of the coverings of the heart

- Trace the pathway of blood through the heart
- Analyze EKG waves
- Dissection of the sheep heart to identify parts of the heart
- Observe blood cells and their functions
- Utilize simulated blood typing lab