Module: **The Heart of the Matter: Exploring the Circulatory System**

Topics: **Cardiology, circulatory system, comparative heart anatomy, electrocardiography, scientific method.**

Seattle Children's Research Institute
SCIENCE ADVENTURE LAB

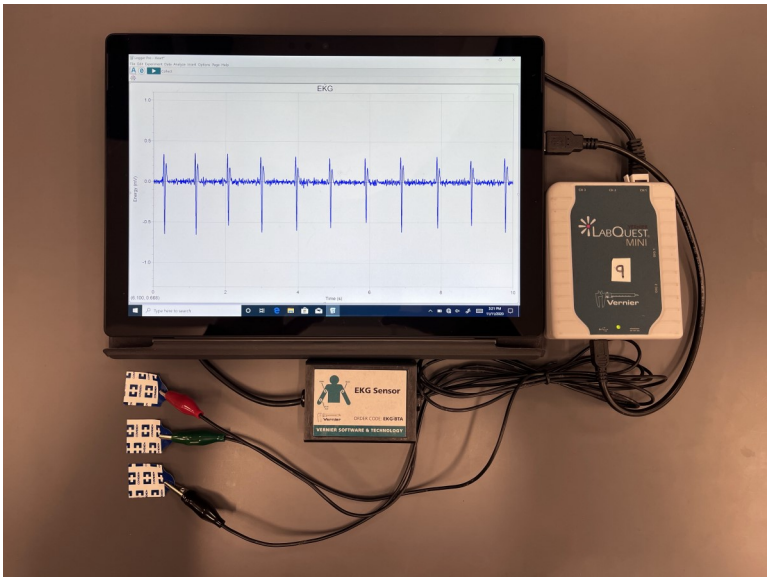
Overview: This lesson is designed to take place onboard the Seattle Children's *Science Adventure Lab*, a mobile science laboratory. In this module students engage in an inquiry-based investigation that promotes understanding of how the heart and blood vessels work together as parts of the circulatory system to move blood around the body. This module also exposes students to equipment and methodologies used in the field of cardiology.

Grade Levels: This module is appropriate for students in Grades 4-6.

Time Required: Minimum time required to complete this module is 60 minutes.

Lab Equipment Used: Electrocardiograph, comparative heart models, and real heart specimens.

Health Issue: This curriculum module focuses on how the circulatory system functions to move blood around the body, heart anatomy, and how healthy habits can support a healthy heart.



Objectives:

- To understand the basic anatomy and function of the heart and circulatory system.
- To expose students to authentic equipment and methodologies used in the field of cardiology.
- To develop the laboratory skills and knowledge required to conduct an experiment and test hypotheses.
- To empower students with the confidence that they can be successful in science and encourage them to pursue careers in science and healthcare.

General Information: All activities done onboard the *Science Adventure Lab* are for educational purposes only. No personal or health-related information is collected from students and no materials are retained by Seattle Children's.

The Heart of the Matter: Exploring the Circulatory System Supports the Following Next Generation Science Standards and Common Core State Standards

Science and Engineering Practices

Asking Questions and Defining Problems
Planning and Carrying Out Investigations
Constructing Explanations and Designing Solutions
Obtaining, Evaluating, and Communicating Information
Developing and Using Models
Engaging in Argument from Evidence
Analyzing and Interpreting Data

Disciplinary Core Ideas

Definitions of Energy
Conservation of Energy and Energy Transfer
Energy in Chemical Processes and Everyday Life
Information Technologies and Instrumentation
Wave Properties
Structure and Function
Information Processing

Crosscutting Concepts

Cause and Effect
Energy and Matter
Systems and System Models
Science is a Human Endeavor
Patterns

Mathematics

Number and Operations in Base Ten

Language and Literacy

Comprehension and Collaboration
Presentation of Knowledge and Ideas
Research to Build and Present Knowledge

For detailed explanations of the standards, please visit:
[Next Generation Science Standards] - http://www.nextgenscience.org/next-generation-science-standards
[Common Core State Standards] - http://www.k12.wa.us/CoreStandards/Resources.aspx

1900 Ninth Avenue
Seattle, WA 98101
seattlechildrens.org/adventurelab

Seattle Children's
HOSPITAL • RESEARCH • FOUNDATION