

Module: Vital Signs! Monitoring our Body's Systems

Topics: Circulatory system, respiratory system, homeostasis, scientific method.



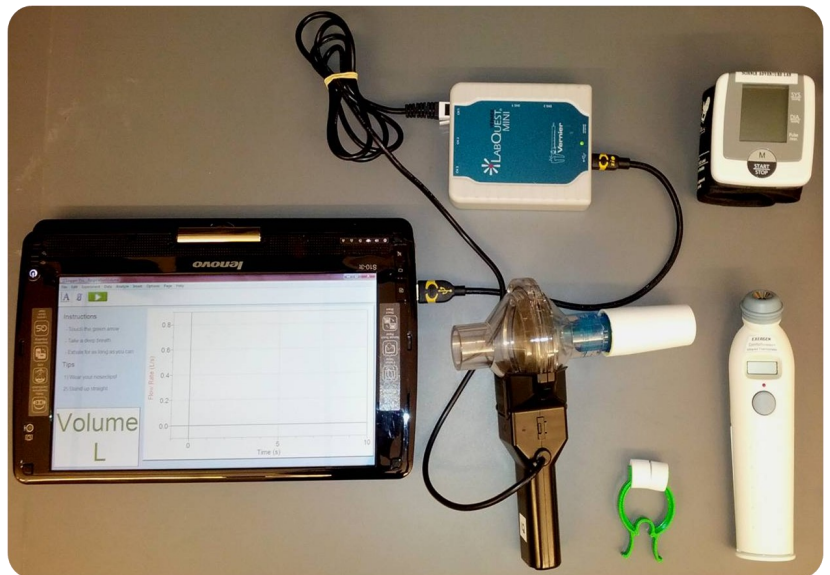
Overview: This lesson is designed to take place onboard the Seattle Children's *Science Adventure Lab*, a mobile science laboratory. In this module students learn about how measuring vital signs reveal whether the body is functioning in a healthy way. Using the same equipment as scientists and physicians, students measure heart rate, blood pressure, respiratory rate, oxygen saturation, and temperature.

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: Blood pressure monitor, spirometer, pulse oximeter, infrared thermometer.

Health Issue: This curriculum module focuses on vital signs, which are measurements of the body's most basic functions. Vital signs are key indicators of whether the body is functioning appropriately and are useful for detecting or monitoring medical problems.



Objectives:

- To understand human body functions and how vital signs reflect those functions.
- To expose students to authentic equipment and tools used by scientists and physicians for measuring vital signs.
- 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.

Vital Signs! Monitoring Our Body's Systems 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

Operations and Algebraic Thinking

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>

