Module: **SENSE, THINK, MOVE: Exploring Brain Functions**

Topics: **Neuroscience, nervous system, comparative brain anatomy, electromyography, scientific method.**

Seattle Children's Research Institute
SCIENCE ADVENTURE LAB

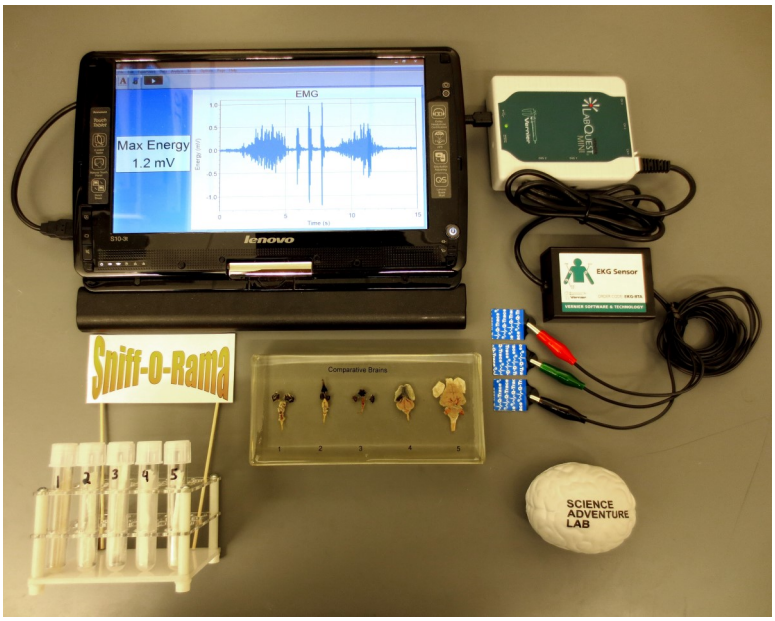
SEPA SCIENCE EDUCATION PARTNERSHIP AWARD
Supported by the National Institutes of Health

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 the key role of the brain as the control center in the human body and exposes students to equipment and methodologies used in the field of neuroscience.

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: Electromyograph, comparative brain specimens, odor identification.



Health Issue: This curriculum module focuses on the brain and its essential role in controlling the functions of the body including sensation, movement, and the ability to think and reason.

Objectives:

- To understand basic brain function.
- To expose students to authentic equipment and methodologies used in the field of neuroscience.
- 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.

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SENSE, THINK, MOVE: Exploring Brain Functions 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

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