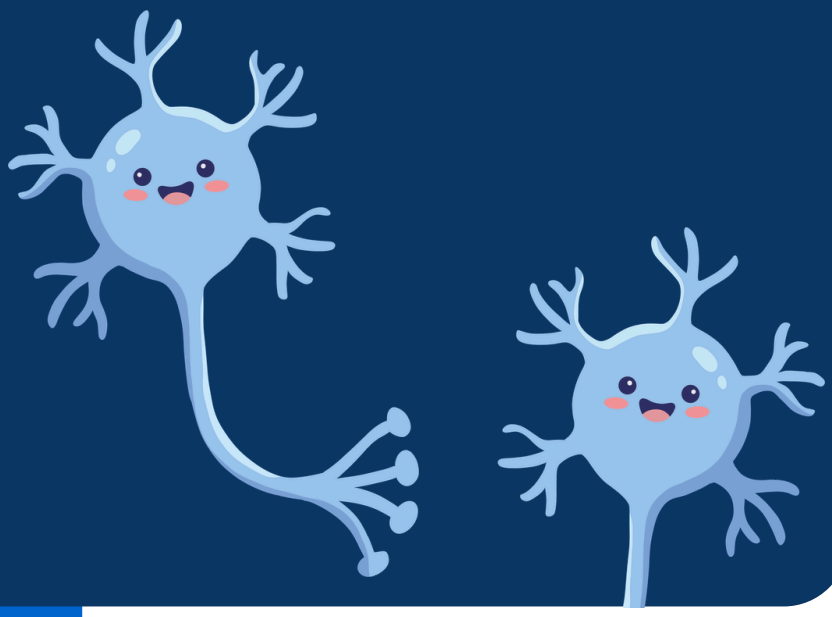
SCIENCE NORTH SCIENCE NORD

BIOHACKING

INTERMEDIATE SCHOOL PROGRAM
Grades 7 to 8 | 50 minutes
Life Systems



You've got a lot of nerves!
In this interactive program, students explore how the nervous system works and how the brain sends and receives information throughout the body. They'll learn how electrical signals travel along neurons to help us move, sense, and react to the world around us.

This workshop also introduces neuroprosthetics, showing how scientists can use technology to restore movement and communication for people with limb loss or mobility challenges. Students will even get to see their own brain's electrical activity in real time using EMG technology. This hands-on experience helps learners understand both the science of the nervous system and the exciting innovations it inspires.

KEY LEARNING OBJECTIVES

- Identify components and function of the human nervous system
- Understand the use of electrochemical signals in the nervous system
- Use Electromyography devices to identify action potentials in their own systems
- Discover the function and benefits of neuroprosthetics

STEM TOOLS

- **Backyard Brains Muscle SpikerBox**
- **Electrodes**
- **Laptops**

CURRICULUM EXPECTATIONS

GRADE 7-8 — APPLICATIONS, CONNECTIONS, AND CONTRIBUTIONS

- A3.1 describe practical applications of science and technology concepts in various occupations, and how these applications address real-world problems
- A3.2 investigate how science and technology can be used with other subject areas to address real-world problems