Welcome to the BrainCo STEM Kit

Introduction

The BrainCo STEM kit brings the technology, experiences, risk taking and engineering of a high tech Brain Machine Interface team into your classroom. Through a series of exciting activities, hands on hardware and connections to real engineers, we hope that our authentic learning pedagogy will make the gap between your students and the technology challenges of the world much smaller.

The BrainCo STEM Kit curricula brings together modular curriculum units designed to be compatible in multiple different learning environments. Example environments include full semester STEM classes, modules within a Robotics, Biotechnology and Engineering Design class or a free learning environment such as a Maker Space or Afterschool STEM club.

The intent of utilizing the full curriculum of the BrainCo STEM Kit is to build investigative, inquisitive, and confident attitudes to pair with definitive technical and content knowledge. Students and educators then are given an open challenge in which they must use the frameworks and content knowledge they have learned as a starting point for a capstone project.

To learn more about the BrainCo STEM Kit or contact us directly, please visit https://www.brainco.tech/stem-kit-2/.

The BrainCo STEM Kit Story

"There's technology to help these people in the U.S. but why can only 4% of the people who need these things afford them?" A group of 4 engineers sitting in the Harvard Innovation Labs mulled over this question while finishing their first AI algorithm.

Every year hundreds of thousands of people around the USA learn to live their lives with different forms of amputations that require serious rehabilitation and sacrifice. While some are fortunate to afford often very expensive high tech solutions, the vast majority struggle with different forms of mechanical devices that are no more complicated than a metallic hook. Comfortably shaking another's hand, performing household tasks and regaining essential pieces of the human experience require giving technology in a way these people can receive it.

After years of research and development facing this issue, BrainCo engineers created the BrainRobotics AI Dexus Prosthetic, which gives an accessible way for amputees to use cutting edge artificial intelligence and neuroscience to naturally control a prosthetic with their own muscle and brain signals. Since then, amputees using this technology have played the piano for the first time, regained their ability to write calligraphy, and finally given a firm handshake. For these results and more, the BrainRobotics Prosthetic Hand was awarded the Time Magazine Top Inventions of 2019, multiple Consumer Electronics Show awards and has been featured on CNBC, the Today Show and more.

This first innovation was because a group of committed engineers asked themselves how an issue they discovered could be solved. Now, we wish to ask our next question: “How do we inspire and educate the next generation of students to take on more problems in our society?”

To achieve that end, we have created the educational experience in your hand with hardware that builds STEM competencies, curricula that inspires free thinking and a free design challenge that connects your class with MIT and Harvard engineers. We hope you can invite your students to show the intersection of their learning and solving a real world problem within a defined and exciting space. As the great educator John Dewey once said,

“From the standpoint of the child, the great waste in school comes from his inability to utilize the experience he gets outside while on the other hand he is unable to apply in daily life what he is learning in school. That is the isolation of the school--its isolation from life.”

* Dewey, J 1915, The School and Society, U of Chicago, Chicago, IL. Lombardi, M 2007, 1st ed. [ebook], available at https://net. educause.edu/ir/library/pdf/ELI3009.pdf, accessed May 2020.

Modules

Project Guided Assembly	Students learn base knowledge in mechanical engineering and electrical engineering through the build of an arduino powered mechanical hand. Students build in groups, provide peer feedback and undergo a debugging and evaluation process.
Biotech and Biomedical Exploration	Students learn fundamental knowledge in Neuroscience, Brain Machine Interfaces, human hand constraints and prosthetics through guided presentations, hardware applications and sharing activities. Students apply this knowledge to design their own Biomedical application and present their solution.
Engineering Design	Students learn the fundamentals of the engineering design process, prototyping, 3D printing, circuits, manufacturing process and methods of bringing an idea to a physical product. Students finish the module with a challenge to design and present their own idea.
Life and Physical Sciences	Students learn and explore the physical world with different hands on experiments involving friction, energy, potential energy, kinetic energy, forms of energy and laws of motion. Additional exploration into human body systems is also provided.
Introduction to Programming	Students learn programming concepts within a block based programming environment. Sequences, events, loops, conditionals and variables are presented and implemented into a virtual activity and physical hardware activity.
Applied Artificial Intelligence	Students learn the conceptual and foundational concepts of Artificial Intelligence guided by the AI4K12 “five big ideas” AI learning standards. Students then progress through hands-on activities which enable them to implement 3 different AI applications to different projects. Finally, students demonstrate their understanding of AI concepts by working on three different AI challenges inspired by real world combinations of AI and advanced prosthetics.
NeuroMaker Creative Challenge	Students are tasked with using the knowledge and skills they have gained to design their own prototype that solves a real world challenge. Students have the option to present their solution in the form of a scientific paper and 2 minute video to BrainCo Harvard and MIT educated engineers and educators for real world feedback.






Standards and Learning Framework

Each modular component of the STEM kit curriculum was written according to respective educational standards including the K-12 Framework for Computer Science, CSTA, ISTE, NGSS and CCSS. Standards are delineated in the forward of the lesson plan for each unit.

Being an educational curriculum based on a real world technology experience, our curriculum has been molded around best practices surrounding Authentic Learning principles. Students are equipped with specific content knowledge and competencies that reach a learning-by-doing capstone project with outside real world connections.

Curriculum Overview

The following elements list the major goals and components of each curriculum module. Also provided is a class by class breakdown of each lesson within the module.

Module 1: Project Guided Assembly

Overview and Time Arrangement

Within the Project Guided Assembly Module, students learn the basics of mechanical and electrical engineering through the manual build of their kits. Each group of students is presented with a disassembled set of mechanical, electrical, and control parts. Students collaborate together to complete each portion of the build with reference materials and teacher guidance

This module is separated into 4 sessions of approximately 50 minutes each with corresponding learning exercises and review. If wished, quick builds of the hardware may be completed in approximately a 2 hour session.

Note: The module must be completed before proceeding to any other curricular units. All other curricular units require completed assembly of the STEM kit.

Big Ideas

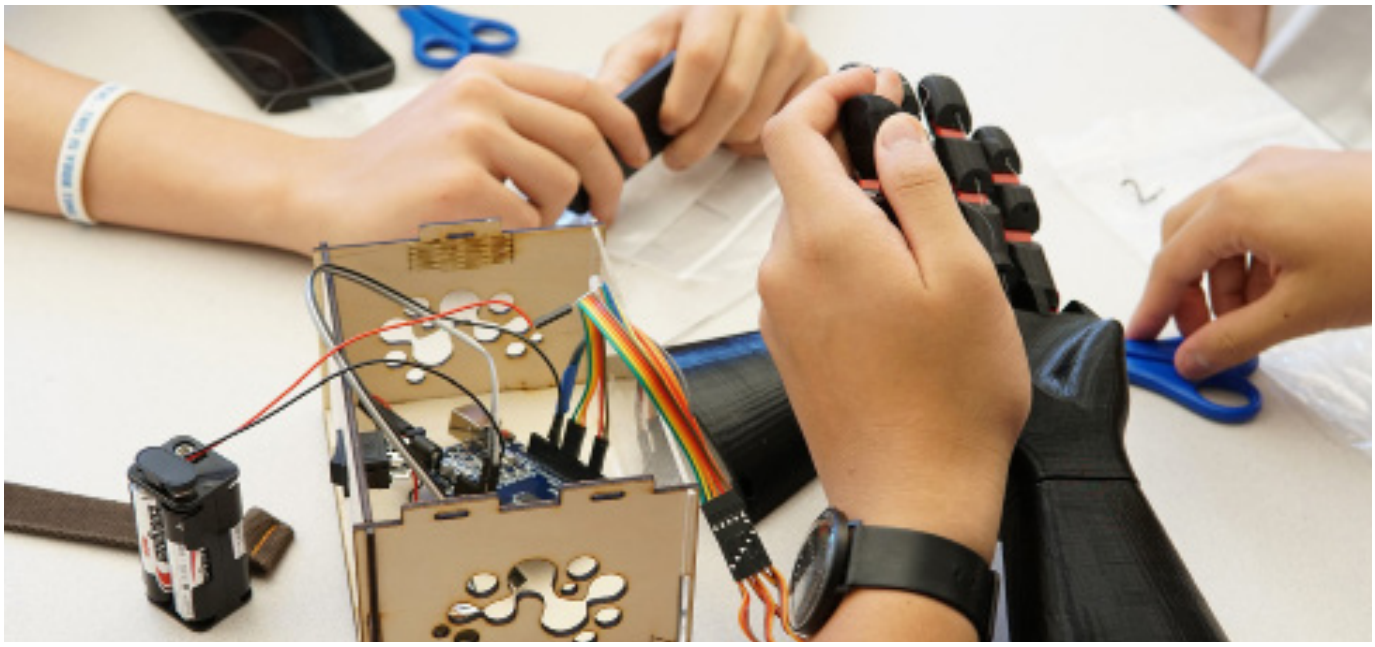
-What is mechanical and electrical engineering?

-What are microcontrollers and how do they interact with other materials?

-How do I designate and accept tasks for my team?

Module Goals

By the end of this unit students will be able to identify the essential parts of a real world technology product including controllers, motors, sensors, breadboards, power sources, switches, and related mechanical and wiring pieces. Students should be able to define hardware elements into mechanical and electrical components and should be able to delegate, accept and collaborate on strategies to build these items and check them with others. This module wishes to create a tactile, hands on experience that empowers students to guide their own learning in groups with teachers playing a co-learner role.



Lesson Progression

Project Guided Assembly Module	**Lesson 1: Structural Assembly** The class is separated into different functional groups with each group receiving one kit. Students are presented with a learning and build guide which they must use to build the structural form of their mechanical hand as a team.
	Lesson 2: Electrical Assembly The class continues to construct in groups and are tasked with building the control system for their device. Students are introduced to components of an electrical circuit, microcontrollers, breadboards, simple sensors and switches.
	Lesson 3: Tendon Connections and Hand Structure This class continues with students groups and tasks them with connecting their structural assembly, electrical control units and tendon connections together. Students experiment with the functionality of their complete or semi-complete builds.
	Lesson 4: Reflection and Debugging This class continues with students in groups and tasks them to reflect on their build process, compare their expectations with their finished build and requires them to collaborate on improving designs that do not function as expected.

Module 2: Biotech and Biomedical Exploration

Overview and Time Arrangement

Within the Biotech and Biomedical Exploration Module, students are provided with content knowledge surrounding real life relevant Biotechnology concepts and progress to their own design of a new Biomedical product. Sustained inquiry through multiple interdisciplinary lessons provide additional levels of details to abstract concepts in assisting other humans through technology. Students perform their own research and collect their own data to support their own collaborative solutions to real world issues they investigate with their classmates. Students are encouraged to think of themselves as multi-disciplined innovators solving a human centric biomedical problem. Content knowledge spans across biomechanics, brain machine interfaces, prosthetics and more.

This module is separated into 8 different lessons of approximately 50 minutes each. Lessons one through six each investigate different content elements with relevant tactile activities with built STEM kits. Lessons seven and eight lead students through a workshop and presentation activity to implement the skills and content knowledge they have acquired. Lessons seven and eight can be expanded at the discretion of the educator.

Note: Full use of the Biotech and Biomedical Exploration module requires additional classroom materials such as cloth, safety pins, scissors, masking tape, string, cardstock and extra paper. Lessons four and six require additional materials while lessons seven and eight may or may not have additional items available at the discretion of the educator. To see a video example of our curriculum, please visit: https://www.brainco.tech/webinars/

Big Ideas

-What biomedical issues do humans face and how can they be solved through technology?

-How do I identify solutions to a real world problem and how do I evaluate its effectiveness?

-How do I create a solution to an issue and gain support through other's cooperation?

Module Goals

By the end of this module, students should be able to identify, research, design, create, test and present their own solution to a real world biomedical issue of their choice using their hardware. Students should understand that different biomedical technologies are available to solve different issues and that many can be prototyped and approached through tools and skills accessible to them in their educational and future career experience.

Lesson Progression

Biotech and Biomedical Exploration Module	**Lesson 1: Introduction to Neuroscience** This lesson discusses the essential functions of neurons, the nervous system and signal transmission to lay a foundation for understanding brain machine interface technology. Students collaborate on identifying different elements of the nervous system together and investigate applications of this knowledge.

Biotech and Biomedical Exploration Module	**Lesson 2: Body Systems and the Human Hand** This lesson investigates the role of the human hand in relation to other body systems. Students in groups investigate the biomechanics of human hands through the motion and movement of their assembled kits.
	Lesson 3: Brain Machine Interface Students in this lesson investigate the basics of modern Brain Machine Interface technology and brainstorm solutions that this technology can provide. Students are introduced to basic strategies to analyze, compare and contrast different constraints around the application of new technology.
	Lesson 4: Biomedical Tech Students in this lesson evaluate solutions to fixing a broken arm as a vehicle for experimenting the structure of a human hand. Students working in groups must present different solutions and rate them according to real world
	Lesson 5: Prosthetics Technology Students investigate different examples of prosthetics and their basic working principles from different human needs perspectives. Students are provided with different human needs and must evaluate the effectiveness of different approaches and model them with their hardware.
	Lesson 6: Prosthetics and Human Grip Students investigate the mechanics and capabilities of the human hand through different examples and hardware experiments. Students brainstorm important characteristics of the human hand and relate these characteristics to Biomedical Engineering concepts.
	Lesson 7: Biomedical Engineering Workshop Students working in teams select a particular issue facing humans with different prosthetics needs. Students brainstorm different solutions and design them into shareable materials with their hardware.
	Lesson 8: Biomedical Engineering Project Presentation Students present their group prosthetics solution to the class using their hardware and any additional materials they have created. Presentations are designed to be student facing and demonstrate collaboration and constructive peer feedback.

Module 3: Engineering Design

Overview and Time Arrangement

Within the engineering design module, students investigate, experiment with and use the engineering design process. Students are first provided with an overview of engineering design best practices and are provided with background knowledge and situational context to experiment with different applications of this process. Students further the knowledge they have acquired in the previous two units by combining their experience in biotech and mechanical domains within engineering design frameworks. Students are finally arranged into groups and tasked with evaluating the implementation of the engineering design process into solutions that they have designed around different selected issues.

This module is arranged into 6 different lessons of 50 minutes each. The last lesson is an open create project in which groups of students rate different engineering solutions according to frameworks set in the engineering design process. This lesson may be tailored to the time length available to the educator.

Big Ideas

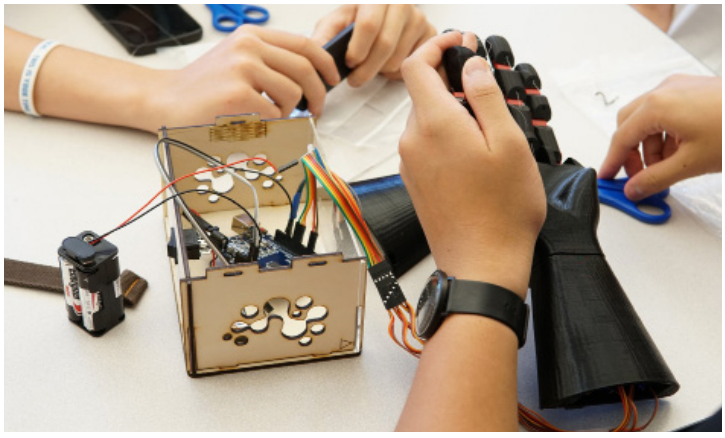
-What is the engineering design process and how is it related to items that I am familiar with?

-What are the essential concepts of prototypes, 3D printing and manufacturing that must be considered in the creation of a new product?

-How do I collaboratively evaluate solutions to a real world problem according to the criteria of the engineering design process?

Module Goals

By the end of these lessons, students should be able to identify the major factors of the engineering design process and have multiple opportunities to use that framework around different provided and student identified solutions. The deeper understanding of the design process through these methods will allow students to develop a strong critical framework to evaluate different solutions to future problems in an iterative and collaborative fashion. This process is intended to prepare students to prepare for submitting a creative solution to our engineering in the NeuroMaker Creative Challenge.



Lesson Progression

Engineering Design	**Lesson 1: What is the Engineering Design Process** Students learn the logic behind the engineering design process and methods to measure the effectiveness of different solutions. Students as a group are then tasked with brainstorming solutions to different provided activities.
	Lesson 2: Engineering Prototypes Students are engaged through the product design process through investigations of iterative product design and prototyping. In groups, students are then challenged with identifying different improvements they would make for a prosthetic by prototyping with their STEM kit.
	Lesson 3: Introduction to 3D Printing Students are introduced to 3D printing concepts, its history and applications. Students are tasked with evaluating the pros and cons of different 3D printing methods and with exploring additional possibilities and future trends.
	Lesson 4: Introduction to Circuits and PCBs Students are introduced to principles of electric circuits, types of electrical circuits, sensors, motors and microcontroller board. Investigations are carried out through applications with the STEM kit hardware
	Lesson 5: Introduction to Manufacturing Students are introduced to how common materials and products are manufactured on a large scale including injection molding, sand cast, CNC, plasma cutting and sheet metal forming. Real life concepts modern assembly lines are explored.
	Lesson 6: Documentation Project Students put the engineering design process into practice by designing their own version of a prosthetic hand. Students observe proper design questions and documentation practices including proposal, verification, method, estimated budget and more.

Module 4: Life and Physical Science

Overview and Time Arrangement

The Life and Physical Sciences module is provided as an additional exploration of science concepts encountered in a typical middle and high school lab sciences curriculum. Students have the opportunity to use their assembled STEM kits to investigate concepts and hands-on activities surrounding physics, energy and the human body. Each lesson is a stand alone activity that can be implemented in a science class investigating these topics.

This module is arranged into 4 modules of 50 minute long lessons. These classes can be implemented together with the other lessons in other modules in order to better understand fundamental scientific concepts that can be utilized in the final NeuroMaker Creative Challenge module. Otherwise these lessons can be used as independent units within Lab Science classes such as Physics, Natural Science or Biology.

Note: STEM kits must be fully assembled before these lessons can be utilized. Successful school implementations of these modules have arranged for assembly to be completed in one class and transferred to a Lab Science classr oom when appropriate. Additionally, lessons one and three will require additional materials including small items for each hand to grasp (such as a plush softball), a ruler, tape, paper towels, wax paper and other items available to grasp in the classroom. It is recommended that lesson one and lesson two are taught consecutively.

Big Ideas

-What forms of energy exist and how are they manifested in a physical hand?

-What are the Newtonian rules of physics and how can I see them in a real life context?

-How does the human hand relate to the overall anatomy of the human body and its body systems?

Module Goals

By the end of each lesson, students will be able to apply a hands on activity to different conceptual elements of Lab Sciences. Students will either be able to complement the learning they are pursuing within their Lab Sciences classes or will be able to further investigate concepts that can be applied into a greater knowledge framework for an open build project.

Lesson Progression

Life and Physical Sciences	**Lesson 1: What is Energy?** Students are introduced to the concepts of energy, potential energy, kinetic energy and energy transformation. In groups, students experiment with different items being picked up and dropped by their assembled STEM kits hands and measure the difference between their potential and kinetic energy.
	Lesson 2: Where is the Energy? Students are introduced to the kinetic and potential energy changes due to stretching and compressing and also to methods to identify kinetic and potential energy. Students then complete motions of their STEM kit hardware and document changes in potential and kinetic energy.
	Lesson 3: Motion and Friction Students are introduced to motion and friction concepts through examples of common day materials and their relation to motion. Students then use STEM kit hardware combined with classroom materials to change the friction coefficients on the fingers and observe changes with associated movement.
	Lesson 4: Body Systems Students are introduced to different systems of the human body through the energy requirements, control and support of the human hand. Students relate functions of human hands to their robotic STEM kit hands and hypothesize how these systems relate with each other.

Module 5: Introduction to Programming

Overview and Time Arrangement

Within module 5, students are introduced to basic programming concepts that will enable them to discover the relationship between hardware platforms and computing. Students engage in lessons that set up their programming environment, discuss hardware and software differences and teach conditionals, functions, variables, sequences and loops. Students utilize their knowledge of these concepts to first create a fully virtual game on their computer and later add the hardware functionality of the robotic hand. Students use a popular block based programming platform called mBlock to complete the functions of this module.

Module 5 contains 6 lessons of 50 minutes each. Lesson “0” allows educators time to set up necessary programs on learner computers and familiarize the class with glossary resources, account set up and additional preparation materials. It is recommended that this module is completed in a full sequential unit if learners are new to programming concepts.

Big Ideas

-What is programming and how is it relevant to the application of hardware and solving defined technology problems?

-What are conditionals, functions, variables, sequences and loops and how are they combined together to create logical programs?

-How are programming concepts applied into interactive environments?

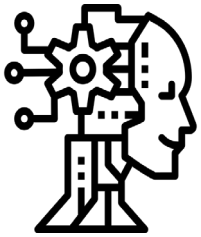
Module Goals

By the end of this module, students will be able to understand and implement programming practices to the control of a physical piece of hardware. Game design within two different activity units integrate different programming concepts and provide an open context environment for students to involve knowledge they have gathered in previous units. Students will be able to recognize programming as a fun and intuitive way for different hardware to be controlled and enacted into sought for solutions.

Lesson Progression

Introduction to Programming	**Lesson 0: Setting up a Programming Environment** Students guided by the teacher create their own mBlock account, gather necessary learning resources and are introduced to vocabulary needed to approach following lessons with confidence.
	Lesson 1: Introduction Rock, Paper Scissors In this lesson, students will be introduced to the basics of coding. Students will learn about foundational coding concepts such as sequence, events, and loops. In this lesson, students will learn how to code both the software and hardware, ultimately creating a rock paper scissors game.
	Lesson 2: Conditionals In this lesson, students will be introduced to the concept of conditionals. Students will learn how to code an interactive game using multiple sprites. Through this lesson, students will gain a deeper understanding of coding, as they use various concepts such as conditionals, sequence, and loops.
	Lesson 3: Functions and Variables In this lesson, students will be introduced to the concept of functions and variables. Students will learn how to code variables onto the screen, adding another complex layer to their existing game from Lesson 2. Students will also learn how to create functions, and create functions for the hardware.
	Lesson 4: Programming Project Part 1 In this lesson, students will be introduced to their final project. Students will be challenged to create a game on the software that uses all the previous concepts such as sequence, loops, conditionals, variables, and functions. In In this lesson, students will continue to work on their final project. Students will complete an interactive game that uses all the previous concepts such as this lesson, students will mainly focus on developing the software portion of the game.
	Lesson 5: Programming Project Part 2 In this lesson, students will continue to work on their final project. Students will complete an interactive game that uses all the previous concepts such as this lesson, students will mainly focus on developing the software portion of the game.

Module 7: Applied Artificial Intelligence



Overview and Time Arrangement

Within the Artificial Intelligence module, students learn the conceptual ideas, ethical considerations, real life applications, challenges and future careers of Artificial Intelligence. Students begin with a series of content knowledge presentations, then progress into open discussions, NeuroMaker kit applications and finally open challenges.

This module is separated into 12 sessions of approximately 50 minutes each with corresponding lesson guides, presentations, demo code and other learning resources. Educational goals of this unit reflect the essential AI

Note: NeuroMaker kits must be assembled prior to the start of this unit. Additionally, it is recommended that students complete the Introduction to Programming unit prior to the beginning of this module.

Big Ideas

-What is Artificial Intelligence and what isn't?

-What ethical considerations are there for AI and how can I start a career in this field?

-How does AI interact with real world inputs like audio and video input?

- How can I apply AI to control a mechanical hand to perform specific motions, build out sign language and other challenges?

Module Goals

By the end of this unit, students will be able to recognize the difference between AI and other kinds of computer applications. Students will understand the essential history of AI, its ethical dilemmas, the importance of perception, reception and reasoning, machine learning and the societal impact of AI. Students will engage in hands-on AI activities that connect computer vision and audio control to familiarize themselves with AI in real life. The module completes with 3 different AI challenges that challenge students to integrate AI into real life situations like training their mechanical hand to play rock paper scissors and display different words in sign language.

Lesson Progression

Applied Artificial Intelligence	**Lesson 1: What is AI?** This lesson discusses the fundamental functions of AI, distinguishes AI from other kinds of computer applications, examines AI in daily life, and shows the development of AI throughout recent history.
	Lesson 2: What Careers Use AI Technology? This lesson focused on the relevance of AI study and the career growth options that are available. Students will learn why they should learn about AI, how AI influences their daily lives, what career options are available and the skills required to build a career in AI.
	Lesson 3: Neuroethics This Lesson gives an overview of the need to build AI responsibly and the principles' involved in the same. Students will learn how to use AI responsibly, the ethical issues implicit in AI and what special considerations should be taken for AI applications in Neuroscience.
	Lesson 4: Big Ideas in AI #1&2 This lesson focuses on introducing the AI4K12 Big 5 Ideas in AI . Students will learn about the concept of perception and how computers visualize and perceive their world. Students will also learn how computers reason from this perceived information through real life examples.
	Lesson 5: Big Ideas in AI #3&4 This lesson focuses on introducing the AI4K12 Big 5 Ideas in AI. Students will learn how computers learn what machine learning and neural networks are. A series of examples will also engage students with different kinds of human-robot AI interaction and its limitations.
	Lesson 6: Big Ideas in AI #5 Students will understand AI on various aspects of life and society at large. Students will be able to understand how AI is connected to society, how it affects humans other ethical considerations and how BrainCo has taken these issues into account in the development of AI and BMI technologies.
	Lesson 7: Introduction to Hand Gesture Recognition This lesson introduces how a computer understands the detection and recognition of an object in an image. Students apply this knowledge on programming their STEM kit to respond to different hand gestures they make to the computer.

Lesson Progression

Applied Artificial Intelligence	**Lesson 8: Introduction to Text Recognition** This lesson introduces the concept that human readable English language text can be interpreted by a computer to a machine readable format. Students then implement this knowledge into creating a prosthetic “withdrawal reflex” like a real human hand would.
	Lesson 9: Introduction to Speech Recognition This lesson focused on the relevance of AI study and the career growth options that are available. Students will learn why they should learn about AI, how AI influences their daily lives, what career options are available and the skills required to build a career in AI.
	Lesson 10: Creating an AI Autonomous Hand This lesson introduces students to the training process of a machine learning algorithm. Students will train a model to recognize different daily life items, like a pen, eraser or paper, and then must program different hand gestures to grasp these items like a real prosthetic.
	Lesson 11: AI Gestures in American Sign Language This lesson combines many of the programming and AI skills students have learned to apply them into a comprehensive programming activity. Students will be challenged with learning the hand signals for different letters of American sign language and then must spell out their names or other instructed phrases.
	Lesson 12: Build an AI Rock, Paper, Scissors Partner This lesson combines all of the above skills and challenges students to train and create an AI agent that can play rock, paper, scissors with the user. Students must train an algorithm, program different commands and then use appropriate sensor inputs to complete their challenge.

Module 6: The NeuroMaker Creative Challenge

Overview and Time Arrangement

The NeuroMaker Creative Challenge is an annual, open design competition in which middle school and high school students choose a socially conscious engineering problem they would like to solve and present a prototype on how they would solve it. Students research their problem, design a solution, create a physical prototype incorporating the BrainCo NeuroMaker Kit and then submit their solution virtually for BrainCo engineers to review based on a judging rubric.

The NeuroMaker Creative Challenge is intended to fit into different educational settings. Some educators may use this as a capstone project to complete learning objectives achieved in the above modules, others may implement it as an afterschool program within STEM focused clubs. For that reason there is no prescribed timeline for completion of this program, however we recommend that students are provided with ample time to research, experiment, build, iterate and present.

In the 2020 season of the NeuroMaker Creative Challenge, BrainCo engineers select six finalists, three from middle school submissions and three from high school submissions. Each group of first, second and third place finalists respectively receive $1,500, $500 and $250 and recognition from BrainCo's prosthetic engineering team. Five additional awards will be presented to teams that recognize important engineering and personal growth traits such as empathy, creativity and perseverance.

The NeuroMaker Creative Challenge is free for any student team that has purchased a NeuroMaker STEM kit from an approved sales channel. You can find rubrics, sign up information and more at the NeuroMaker Creative Challenge website: https://www.brainco.tech/neuromaker-challenge/

NeuroMaker Challenge Process

Competition Release	Students receive a challenge document which highlights a specific issue within a certain topic area. This challenge will present a real world issue to students which they must confront.
Form Groups	Students form teams of 2-4 individuals with whom they will create their project.
Team Research	Teams develop a research plan and document their assumptions, progress and discoveries according to their solution hypotheses.
Iteration	Students turn their theoretical solutions into a physical prototype using their STEM kit materials. Students investigate key assumptions and effectiveness according to their prototype's effectiveness.
Solution Presentation	Students write a 2-3 page report that summarizes their findings and presents their solution. Students also create a short video no longer than 2 minutes that documents their solution and process.
Solution Review	Students may submit their report and video to the NeuroMaker judging committee for review.
Results Announced	The NeuroMaker judging committee reviews solutions and provides feedback to participants. Awards and accolades are announced online.