

The Education Partnership

STEAM Lending Library

List of items

Bee-Bots



[Click Here to learn more and access a video demonstration](#)

Pre-K to 2nd

Easy to program tool that can store up to 40 commands to help teach sequences, problem-solving, and encourage creativity

Puzzlets



[Click Here to learn more](#)

Pre-K to 2nd

A visual programming tool that uses games to teach students basic programming, math, and art skills

STEM Early Learning



Equipment and activity cards that help students to explore foundational concepts such as weight, buoyancy, and balance

PBS Maps



Reference the attached file regarding this kit and I can follow up to provide you with a more detailed view of what is in this kit.

Pre-K to 2nd

A visual exercise to help kids develop their spatial skills and basic map skills using a fun game format

Osmo



[Click Here to learn more and also see a video demonstration](#)

K to 6th

A unique gaming accessory to enforce problem-solving

PBS Coding (Scratch)

K-3rd

Students create their own interactive stories and games featuring their favorite PBS KIDS characters. The storytelling possibilities are endless with this creative coding app for children ages 5-8.



[Click Here to learn more](#) And, reference the attached file regarding this kit and I can follow up to provide you with a more detailed view of what is in this kit.

1st to 3rd

Easy to use tool that allows kids to program and design their own stories enhancing creativity and programming skills

Engineering is Elementary



Developed by the Museum of Science, Boston

[Click Here to learn more about Engineering is Elementary which is developed by the Museum of Science, Boston](#)

These STEAM learning kits include tools and equipment to help with project-based, hands-on learning emphasized in engineering. Our current kits in the STEAM Lending Library are as follows:

Engineering is Elementary- A Slick Solution

Grades 1-5, Environmental Engineering, Life Sciences

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In A Slick Solution: Cleaning an Oil Spill, students explore how engineering helps to clean up pollution that threatens an ecosystem. The unit begins with the storybook Tehya's Pollution Solution, in which a girl named Tehya, a member of the Lower

Elwha Klallam tribe in Washington State, explores the field of Environmental Engineering in order to help clean up an oil spill in a local river. Over the course of the unit, students investigate methods to detect pollution and evaluate information about ecosystems. Like Tehya, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own oil spill cleanup process.

Engineering is Elementary- A Stick in the Mud

Grades 1-5, Geotechnical Engineering, Earth/Space Sciences

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In A Stick in the Mud: Evaluating a Landscape, students explore landforms and erosion in the context of geotechnical engineering. The unit begins with the storybook Suman Crosses the Karnali River, in which a boy named Suman living in Nepal explores the field of Geotechnical Engineering in order to convince his father to build a TarPul suspension bridge in the best possible location. Over the course of the unit students build model earthquake-proof structures, analyze soil types, and use evidence to argue for their plan. Like Suman, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own model TarPul and to propose where to place it.

Engineering is Elementary- A Sticky Situation

Grades 1-5, Materials Engineering, Earth/Space Sciences

[Link to product information](#)

[Link to Lesson 3 Video Demo](#)

General Kit Description: In A Sticky Situation: Designing Walls, students discover and discuss the connections between the properties of earth materials such as clay, soil, and sand and their uses in engineering. The unit begins with the storybook Yi Min's Great Wall, in which a girl named Yi Min living in China explores the field of Materials Engineering in order to build a wall to protect her garden from a hungry rabbit. Over the course of the unit, students observe and describe properties of earth materials both wet and dry, predict which materials will make the strongest mortar, and test their predictions. Like Yi Min, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own walls.

Engineering is Elementary- A Work in Progress

Grades 1-5, Chemical Engineering, Physical Sciences

[Link to product information](#)

General Kit Description: In A Work in Process: Improving a Play Dough Process, students investigate mixtures and chemical engineering. The unit begins with the storybook Michelle's MVP Award, in which a girl named Michelle living in Canada explores the field of Chemical Engineering to turn her play dough "recipe" into a complete play dough making process that others can easily follow. Over the course of the unit, students explore solids, liquids, and possible outcomes of mixing the two; conduct product research; and develop a process for others to follow. Like Michelle, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own process for producing play dough.

Engineering is Elementary- An Alarming Idea

Grades 1-5, Electrical Engineering, Physical Sciences

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In An Alarming Idea: Designing Alarm Circuits, students explore electricity and its use in everyday technologies. The unit begins with the storybook A Reminder for Emily, in which a girl named Emily, living on a ranch in Australia, explores the field of Electrical Engineering to build a system to alert her when she needs to fill the sheep's water trough. Over the course of the unit, students explore energy and electricity, investigate closed and open circuits, and create diagrams of circuits. Like Emily, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own electrical alarm circuits.

Engineering is Elementary- Marvelous Machines

Grades 1-5, Industrial Engineering, Physical Sciences

[Link to product information](#)

General Kit Description: Machines make work easier—as students learn when they read about a visit to a potato-chip factory in the storybook Aisha Make. In Marvelous Machines: Making Work Easier, students discover how engineers combine multiple simple machines to complete difficult tasks. The unit begins with the storybook Aisha Makes Work Easier, in which a girl named Aisha living in Massachusetts explores the field of Industrial Engineering to complete her summer project. Over the course of the unit, students investigate the different kinds of simple machines and their uses in industrial processes. Like Aisha, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own model of an industrial system that uses simple machines to make work easier.

Engineering is Elementary- No Bones About It

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In No Bones About It: Designing Knee Braces, students explore how biomedical engineers use their understanding of human body systems to design solutions to address health problems. The unit begins with the storybook Erik's Unexpected Twist, in which a boy named Erik living in Germany applies his understanding of Biomedical Engineering in order to designs a temporary knee brace for an injured classmate. Over the course of the unit, students collect and analyze data about variation in human feet and consider how these data affect the design of running shoes. They investigate the properties of materials and brainstorm how those materials might be useful in designing a knee brace. Like Erik, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own knee brace designs.

Engineering is Elementary- Solid as a Rock

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In *Solid as a Rock: Replicating an Artifact*, students explore rocks and minerals and the properties of materials. The unit begins with the storybook *Gayla and Natasha's Rocky Adventure*, in which twins Gayla and Natasha living in Russia explore the field of Materials Engineering as they identify a material to replicate a petroglyph (rock carving) from their archeologist mother's study site. Over the course of the unit, students learn how to compare and categorize different materials, differentiate between the three types of rocks, and practice the methods archaeologists use to protect and replicate their discoveries. Like Gayla and Natasha, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own petroglyph replicas.

Engineering is Elementary- Sounds Like Fun

Grades 1-5, Chemical Engineering, Physical Sciences

[Link to product information](#)

General Kit Description: In *Sounds Like Fun: Seeing Animal Sounds*, students investigate the properties of sound and their many applications in engineering. The unit begins with the storybook *Kwame's Sound*, in which a boy named Kwame living in Ghana explores the field of Acoustical Engineering in order to communicate his drumming rhythms visually to his cousin Kofi. Over the course of the unit, students learn about the properties of sound and its many applications in fields from animal research to the design of musical instruments. Like Kwame, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own systems for representing animal sounds.

Engineering is Elementary- Taking the Plunge

Grades 1-5, Ocean Engineering, Physical Sciences

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In *Taking the Plunge: Designing Submersibles*, students learn how engineers use their understanding of science and math to solve problems in the ocean environment. The unit begins with the storybook *Despina Makes a Splash*, in which a girl named Despina living in Greece explores the field of Ocean Engineering as she designs a submersible to retrieve her cousin's goggles. Over the course of the unit, students use a model tool for mapping the ocean floor. They plan and carry out an investigation to learn how to predict whether an object will sink or float, based on its mass and volume. Like Despina, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own submersibles.

[Link to product information](#)

[Link to Lesson 1 Video Demo](#)

General Kit Description: In *The Attraction is Obvious: Designing Maglev Systems*, students explore magnetism and its applications in engineering. The unit begins with the storybook *Hikaru's Toy Troubles*, in which a boy named Hikaru living in Japan explores the field of Transportation Engineering in order to design a special attraction for his family's struggling toy store. Over the course of the unit, students analyze the design of transportation systems, investigate the properties of magnets, and build model toys that use magnets. Like Hikaru, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own magnetic levitation transportation system.

Engineering is Elementary- The Best of Bugs

Grades 1-5, Agricultural Engineering, Life Sciences

[Link to product information](#)

General Kit Description: In *The Best of Bugs: Designing Hand Pollinators*, students explore insects and plants and apply agricultural engineering to solve a pollination problem. The unit begins with the storybook *Mariana Becomes a Butterfly*, in which a girl named Mariana living in the Dominican Republic explores the field of Agricultural Engineering to figure out why her ohelo plant won't make berries. Over the course of the unit, students learn about agricultural pest management, the life cycles of plants, and the interdependence of insect pollinators and plants. Like Mariana, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own hand pollinators.

Engineering is Elementary- Thinking Inside the Box

Grades 1-5, Package Engineering, Life Sciences

[Link to product information](#)

General Kit Description: In *Thinking Inside the Box: Designing Plant Packages*, students explore the field of package engineering and how the needs of both products and consumers impact package design. The unit begins with the storybook *A Gift From Fadil*, in which a boy named Fadil living in Jordan explores the field of Package Engineering in order to build a package to protect a gift for his older sister. Over the course of the unit, students explore what a plant needs to live, identify the functions of a package, and determine the structure of a package that can support the health of a plant. Like Fadil, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own plant packages.

Engineering is Elementary- Water, Water Everywhere

Grades 1-5, Environmental Engineering, Earth/Space Sciences

[Link to product information](#)

General Kit Description: In *Water, Water Everywhere: Designing Water Filters*, students explore and discuss the connections between water and the water cycle and the role of engineers in providing and maintaining clean and safe drinking water. The unit begins with the storybook *Saving Salila's Turtle*, in which a girl named Salila living in India explores ideas from the field of Environmental Engineering in order to save a turtle from its polluted environment. Over the course of the unit, students investigate sources of pollution in their own communities and evaluate how well different materials filter contaminants from water. Like Salila, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve their own water filters.

Engineering is Elementary-Now You're Cooking

Grades 1-5, Green Engineering, Physical Sciences

[Link to product information](#)

General Kit Description: In *Now You're Cooking: Designing Solar Ovens*, students learn how engineers use their knowledge of energy transfer to design solutions for using energy without harming the environment. The unit begins with the storybook *Lerato Cooks Up a Plan*, in which a girl named Lerato living in Botswana explores the field of Green Engineering in order to build a solar oven to cook food for her family. Students explore product life cycles and the environmental impact of products. They then collect and analyze data to compare how different materials perform as thermal insulators and conductors. Like Lerato, students then follow the steps of the Engineering Design Process to imagine, plan, create, and improve the thermal insulation for their own solar ovens.



Item Name: Osmo

Grade Level: K to 6th

A unique gaming accessory to enforce problem-solving

[Click Here to learn more about Osmo and review a video demonstration](#)



Item Name: Makey Makey

Grade Level: 3rd to 8th

Description: Includes electronic equipment that allows students to control any computer program with everyday objects

Product Website: makeymakey.com



Item Name: Bristlebot

Grade Level: 3rd to 8th

Description: This fun activity involved building small, simple circuited robots with attached toothbrush heads

Product Website: www.homesciencetools.com



Item Name: Ozobot

Grade Level: 3rd to 8th

Description: An easy to use, small programmable robot

Product Website: ozobot.com



Item Name: LEGO We Do

Grade Level: 3rd to 8th

Description: Using the familiar LEGO bricks and easy-to-use software, this tool allows students to engage in engineering principles.

Product Website: education.lego.com



Item Name: Sphero

Grade Level: 3rd to 8th

Description: Fun, programmable robot to learn basic robot technology.

Product Website: Sphero.com



Item Name: Happy Atoms

Grade Level: 5th to 8th

Description: An interactive exploration of the world of molecules and introductory chemical concepts.

Product Website: HappyAtoms.com

Additional items available from our STEAM Lending Library:

- **Sewing Machines**
- **Cricut Machines**
- **3D Printer**
- **Human Skeleton (5 feet tall medical grade realistic)**
- **Knex kits**
- **More to come, send us your needs so we can have an opportunity to add new STEAM Kits to our library of resources for our schools to benefit from.**