A+ STEM LABS

Turn Any Classroom Into A High-Tech Learning Laboratory!

Intelligent Laptop Cart

Turn-Key, Technology-Based Teaching Solutions

A+ STEM Labs makes it possible for K-12 schools to deliver robust, grade-appropriate, technology-driven STEM education through hands-on activities and experiments that map easily to any curriculum. We also make it as easy as possible for teachers to integrate our technologies within their classrooms, helping them to better manage classroom time, student evaluations and presentation of content. The future of our economy is in STEM. So is the future of our students.

Combine to create customized solutions that fit your schools' needs

- Hands on Science
- 3D Design & Printing
- Robotics
- Drones
- Coding
- AR/VR
- Literacy and Reading Intervention
- Graphic Design
- Photography
- Music

"My A+ STEM Lab has completely revolutionized instruction and student engagement in my 6th grade classroom. What I love most is how easily we were able to integrate its tools into our existing classroom routines. The possibilities with these tools are truly endless."

— A. ADELFIO, TEACHER FREDERICK DOUGLAS ACADEMY VIII MIDDLE SCHOOL, BROOKLYN, NY

Empowering Education: Channeling Focus, Igniting Minds

Using technology in classrooms can be challenging for educators. A traditional classroom setting has a 1/30 ratio, and most often, students know technology better than their teachers. In a typical 40-minute period, there are many ways for teachers to incorporate STEM technology into lesson plans to provide a more comprehensive learning experience that engages students.

OUR SOLUTIONS BRING IT ALL TOGETHER:

- Cost effective, turn-key, alternative to traditional laptop carts
- Hands on STEM activities for students
- Wide range of STEM teaching materials
- Everything in a high-tech classroom without construction
- Makes it simple to efficiently use technology in the classroom
- Maximizes the limited time we have with the students

RESO A FUNDS APPROVED!

MAKING STEM ACHIEVABLE

Help Your Teachers **Effectively** Use Technology In The Classroom

The **A+ STEM Labs Intelligent Laptop Cart** is a complete teacher's command center that enables teachers and students to make the most efficient use of laptops or tablets in the classroom. In addition to providing each student with the power of a computer, it gives the teacher a set of easy-to-use tools to monitor and manage all student computer usage, as well as push content to the students' laptops.

The **Intelligent Laptop Cart** integrates with new or existing Smart/Promethean panels and includes a wide range of presentation tools. This includes a teacher's monitor on an articulating arm, a fully integrated document camera, a Bose Sound System, and a wireless tablet to allow the teacher to control presentations from anywhere in the room! All intelligent laptops include a full-featured student assessment system, configured with state-standard test questions for Science, Math, and ELA, such as the New York State Regents Exams.

The **Intelligent Laptop Cart** serves as the perfect platform for any computer-based core curriculum, as well as educational enrichment programs such as web/game design, coding, robotics, reading intervention, CAD/CAM, desktop publishing, video editing, and much more.

▷ Turn-key "teachers command center"

▷ Fully integrated solution

▷ All the tools provided in a high-tech classroom, without construction

▷ Allows teacher to monitor guide and control student activity

▷ Automated file distribution and collection from all student devices

▷ Direct and control student internet access

▷ All devices configured with software for all our integrated solutions

▷ Includes NYC DOE Laptops, zSpace Devices, MacBook's, or Chromebooks
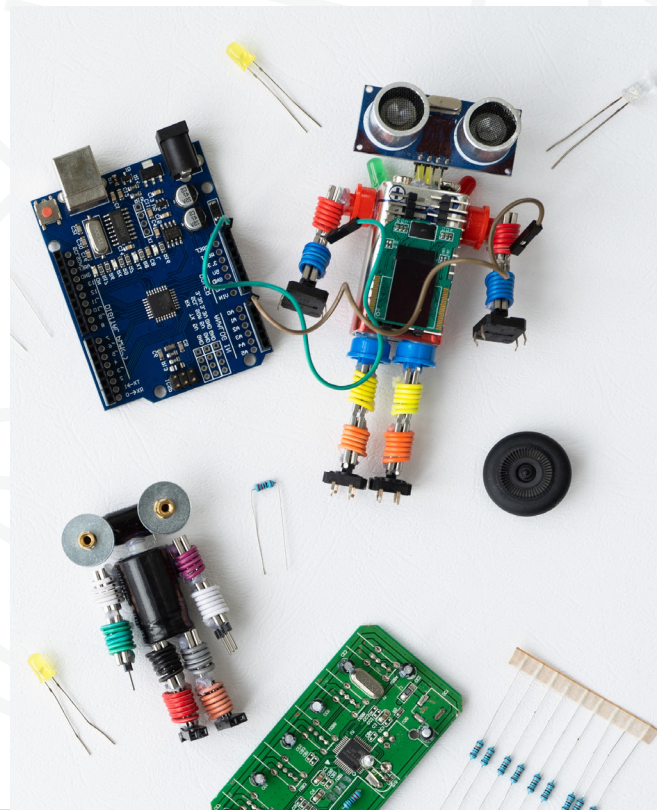
Teachers Command Center
Giving teachers the ability to PRESENT, MONITOR, GUIDE and CONTROL student activity

A+ Mobile STEM Lab
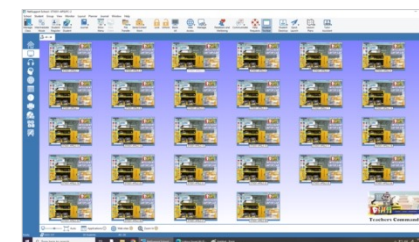**(Intelligent Laptop Cart)**
New DOE Devices

**A+ Mobile Teachers Station**
Existing School Owned Devices

MONITOR

▷ See what students are doing at all times
  ▷ What applications are running
  ▷ What websites they are on
▷ Blank/lock their screens and keyboards
▷ Lock students keyboard and mouse
▷ Segment into groups/work groups

GUIDE

▷ Launch applications or web sites on all students devices simultaneously
▷ Communicate with the students privately or the entire class
▷ Take control of devices
▷ Share teachers screen with all students
▷ Exhibit individual students screen with all students

CONTROL
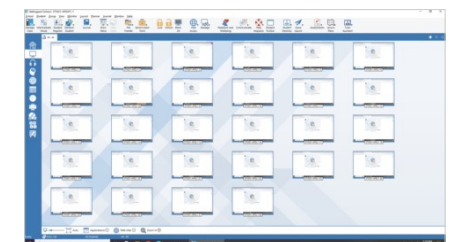
▷ Manage when, where and how the students access the internet
  ▷ Create approved only site(s)
  ▷ Turn off internet completely
▷ Mute sound on all or selected devices
▷ Power off, reboot and login/out of devices
▷ Close all programs on devices

MAKING STEM ACHIEVABLE

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Hands-On Science Activities

Exposing students to the tools the real scientist use making them feel like real scientists

A+ STEM Labs believes that hands-on learning makes for memorable learning and greater retention of concepts. Our labs encourage students to act like "real scientists" by participating in experiments that use data they personally collect and sample from the world around them. All our **STEM Labs** for Science feature scientific probes and data loggers offered in configurations tailored for the needs of Elementary, Middle or High School students. We also offer a specially configured Pre-K version.
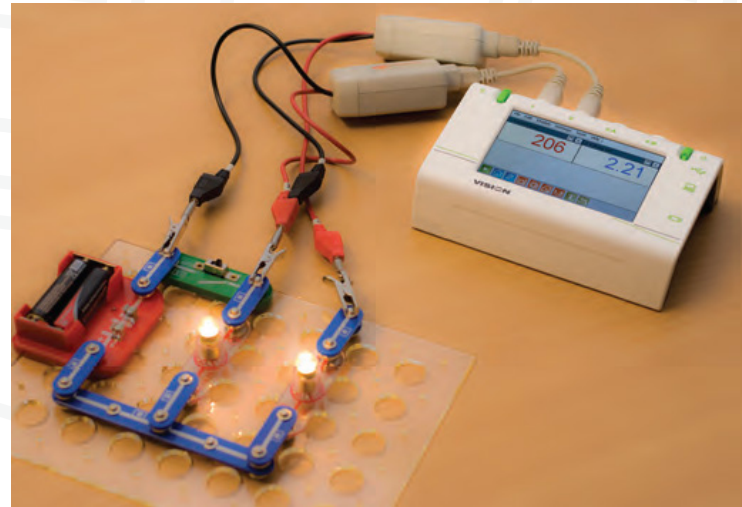
Pre-K

• **Does light shine through everything?**
Use light sensors to see how well light travels through different objects.

• **What makes the most noise?**
Use sound sensors to measure changes in sound levels from different noises.

• **What happens when we exercise?**
Use fever strips and a heart rate monitor to measure changes in pulse and temperature after vigorous activity.

Middle School

• **How do different objects leave a heat signature?**
Use an infrared sensor to measure the heat radiating from objects and what is left behind by them.

• **How well does the body regulate temperature?**
Use a heat sensor to measure body temperature as it is exposed to changing environmental conditions.

• **Does voltage and current vary with load?**
Connect a voltage sensor to a wind turbine and take measurements as the load changes.

> "My students feel like real scientists, using the tools real scientists use."
>
> — K. Terelli, TEACHER
> Philip J. Abinanti PS 108, Bronx, NY

Elementary

• **How do different light surfaces and colors reflect light? How well do different sunglasses block out light?**
Use light sensors to take measurements and compare

• **How do different activities affect your heart rate?**
Use the heart rate monitor to measure changes in your pulse.

High School

PHYSICS LAB:

• **What is the relationship between kinetic and electrical energy?**
Use a spinning magnet and a voltage sensor to collect readings, then see how the power curve varies with the speed of magnet, current and voltage.

CHEMISTRY LAB:

• **What happens during an endothermic reaction?**
Conduct a calorimetric experiment within an aqueous solution while measuring temperature changes.

BIOLOGY LAB:

• **How do different environmental and physical factors affect a plant's ability to conduct transpiration?**
Use a humidity sensor to find out.
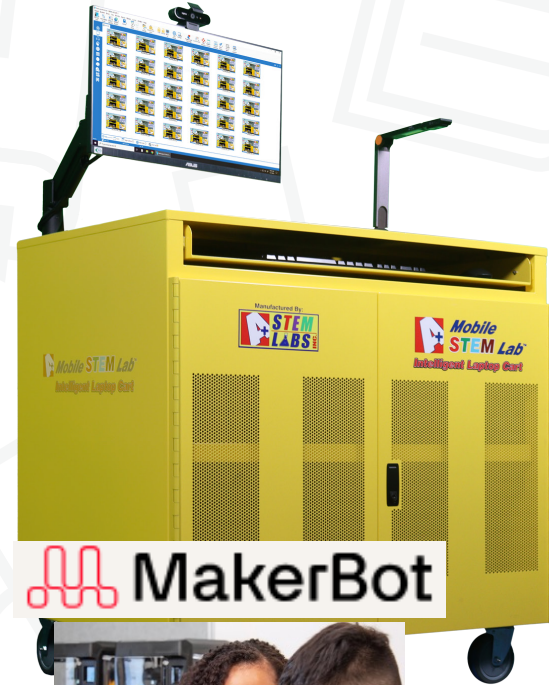
Coding, 3D Printing and Design

Select STEM/STEAM programs to create a Customized K-12 Solution to fit your schools' needs!

Coding, 3D Printing, and Design programs through **A+ STEM Labs** represent the intersection of creativity and technology, further enriching students to express creativity through STEM. These labs expose the latest modern technology to students in a fun yet educational outlet, teaching students how to design, plan, and build a product from raw idea to finished item through programs including robotic coding, drone STEM, 3D Printing, coding lessons, and more.

pi-top

With step-by-step teacher guides, over 150 hours of standards-aligned lessons, and engaging activities, you will guide your students as they progress from beginning STEAM challenges to advanced AI concepts - no CS teaching experience is needed!

Everything you need to scale classroom 3D printing to your needs. Featuring reliable and easy-to-use 3D printers, the largest 3D printing community for educators, free lesson plans and curriculum, and MakerBot Certification.

MERGE EDU

Merge EDU engages students in science and STEM with 3D objects and simulations they can touch, hold and interact with.

ozobot

Redefining the role of robotics in education with award-winning coding robots and STEAM-based learning solutions.

Makey Makey

Design your own controller with everyday materials like playdough or graphite pencils to control your favorite Scratch game while you learn to code.

LEGO

Early STEAM Skills   **SPIKE™ Essential**   **SPIKE™ Prime**

LEGO® Education inspires learning you can build on. The belief that learning should be joyful for both students and teachers has driven LEGO® Education to lead the way in innovative, hands-on learning for more than 40 years. Our range of solutions is designed not only to meet academic standards but also to inspire all students to see themselves as the change-makers of tomorrow.

DRONEBLOCKS

Transform traditional classrooms into future-ready learning hubs with DroneBlocks. Our comprehensive drone STEM curriculum, interactive apps, and hands-on kits are designed for students at all educational levels.

sphero

Sphero transforms the way kids PK–12 learn with a fun, comprehensive approach to STEAM (that's STEM + Art) and computer science. Our coding robots, design-and-build kits, curriculum, and engaging lessons and activities encourage exploration, imagination, and perseverance.

littleBits®

With littleBits, you'll develop important STEM skills while having fun. Snap together the easy-to-use building blocks and start inventing. There's never been an easy and accessible way to learn electronics and engineering — until now.

The A+ Mobile STEAM Lab for Literacy
Nurturing Lifelong Readers, Writers, and Learners Across Every Grade Level

The **A+ STEAM Lab** for Literacy is a complete teacher's command center that enables teachers and students to make the most productive and efficient use of personal laptops or tablets in the classroom, while helping to teach and reinforce basic reading principles. The **A+ STEAM Lab** for Literacy provides the teacher with a set of easy-to-use tools to effectively Monitor, Guide and Control all student computer usage, and push content to individual students and/or the entire classroom.

A+ STEM Literacy Lab Options
▷ Customized Literacy Solutions for Elementary, Middle and High School
▷ Customized Intervention
▷ Library Literacy
▷ Multilingual Literacy
▷ Social Emotional Learning Literacy
▷ Career and Technical Literacy
▷ Preschool Literacy

MAXSCHOLAR
Reading Intervention Programs

Orton-Gillingham and Lindamood-Bell Process for phonics, reading, and language for Pre-K-12th.

IXL
Personalized learning with a comprehensive K-12 NYS Standards aligned assessment and curriculum. Subjects include ELA, Math, Science, Social Studies, and Spanish.

news-o-matic
Multimedia non-fiction continuously expanding library of 12,000+ stories for grades K-8. Standards-aligned questions and assessments with translations available in various languages.

Read Naturally Live
Builds fluency and motivation utilizing short, nonfiction passages. Increases accuracy, comprehension, vocabulary, and decoding/automaticity for grades 1-8.

essaypop
Interactive writing platform that simplifies the essay writing experience and empowers students to express their thoughts and ideas effectively. Uses customizable essay templates, step-by-step guidance, and real-time feedback, enabling students to become confident and proficient writers.

CORE LEARNING EXCHANGE
Provides middle school and high school students with extensive library of Career Technical Education (CTE), STEM, and elective courses aligned to the 16 National Career Clusters.

LightSail
READ. WRITE. LEARN. GROW.
Contains thousands of outstanding fiction and nonfiction texts for grades K-12 written across a wide range of Lexile measures. With our Personalized Reader, students can try each of our unique tools to create customized support for their reading journey

coursera
Helps students find the right role for their career goals, build skills, and earn micro-credentials from a leading global companies. Prepares graduates for entry-level work with in-demand skills training and Professional Certificates.

Vocabulary.com
Vocabulary and language exploration for Grade 5 and up. Comprehensive reporting and actionable data.

Education.com
Aligned math, reading, and science games for grades Pre-K–8th with supplemental worksheets and lesson plans.

ABCYa
300+ fun and educational games for Grades Pre-K through 6th grade.

WordFlight
Addresses gaps in foundational knowledge and targets automatic word recognition and advanced decoding.

Lightswitch LEARNING
Nonfiction young adult memoirs focusing on social-emotional learning (SEL), career exploration, STEM topics, humanities, and social science. *Can include visits from Authors

Rosetta Stone
Empowers students to read, write, and speak new languages with confidence.

A+ Mobile STEAM Lab for Virtual Reality with zSpace

Career and Technical Education

zSpace supports Career and Technical Education with applications that support Career Clusters like Advanced Manufacturing, Agriculture & Food, Health Sciences, Information Technology, Skilled Trades, and Transportation. Students learn through highly engaging experiences that are aligned to industry certifications like NOCTI and others.

STEM Education

Revolutionize STEM learning with zSpace and transport students into incredible VR simulations and experiences that would otherwise be impossible. Interact and explore concepts through immersive visuals and a handheld stylus.

Workforce Development

CERTIFICATIONS

zSpace combined with NOCTI and YouScience enables students to potentially earn up to 33 industry credentials. zSpace is also a supplemental tool for many other industry certifications.

ADVANCED MANUFACTURING & ROBOTICS

zSpace provides a suite of learning applications to provide hands-on learning across multiple areas in the manufacturing industry. Students will explore assemble and disassemble mechanical and engineering fundamentals, build hydraulic and pneumatic systems and build complex systematics.

AGRICULTURE & FOOD

zSpace provides a suite of learning applications to provide hands-on laboratory dissections for large and small animal science and a simulated welding training program. These applications can accelerate your Ag-mechanics, horticulture or Vet Tech pathways.

HEALTH SCIENCES

zSpace provides a suite of applications to provide self-study experiences, anatomy and dental hands-on laboratory dissections, and ECG certification preparation. Students understand more deeply with 3D interactive experiences and their engagement soars.

INFORMATION TECHNOLOGY

Engage in coursework for in-demand careers in data analytics, web and game development, and virtual reality.

SKILLED TRADES

The National Association of Business Economics (NABE) discovered that over half (57%) of their Business Conditions Survey respondents indicated that there was a shortage of skilled workers. zSpace applications provide hands-on lifelike experiences in construction, HVAC and electrical controls of low voltage electrical appliances.

TRANSPORTATION

The Automotive VR Training Solutions provided by zSpace offers extraordinary hands-on experiences while improving student interest and performance in mechanic training. These applications greatly expand the opportunities available to students by eliminating consumables, reducing training space, and allowing students to prepare for industry certifications in a safe environment.

zSpace + Esports. An Immersive Experience Beyond Gaming

Deliver evidence based instruction in science, math, and CTE powered by AI-accelerated performance and the lowest system latency, tailored for gamers and creators.

Up your game with the leading AR/VR and gaming technology

Experience uncompromisable performance and speed with 11th Gen Intel® processors and NVIDIA® GeForce RTX™ 30 Series graphics cards. See every glorious detail on its 15.6'' PANTONE® Validated 4K Ultra HD narrow bezel display. Stay cool and keep things quiet with strategically placed high-efficiency fans and the latest thermal cooling technology. Run any game with both Unity and Unreal engines built in.

A+ Mobile STEAM Lab for Graphic Design and Photography

Fully Customize your own Design & Capture Hub: Crafting Visual Stories in the Digital Realm

Unlock your students creative potential in the dynamic world of visual communication with our **A+ Mobile STEAM Lab** for Photography and Graphic Design. Graphic Design and Photography is an exciting journey into the realms of design and image capture. Our fully customizable lab is designed to introduce K-12 students to the principles, techniques, and tools used in graphic design and photography.

A+ Mobile STEAM Lab for Music

Elevating Musical Expression through Technology

Welcome to Digital Soundscapes, where music meets cutting-edge technology! **Our A+ Mobile STEAM Lab** for Music is designed to immerse students in the exciting intersection of music and digital innovation. In an era where technology reshapes the way we create and experience music, this fully customizable lab offers a hands-on exploration of digital tools, production techniques, and electronic instruments.

The College Readiness Experience

Preparing students for the next steps in their educational journey

The **A+ STEAM Lab** for College Readiness is a complete teacher's command center that enables teachers and students to make the most productive and efficient use of personal laptops or tablets in the classroom, while helping to teach and reinforce post-secondary focus. The **A+ STEAM Lab** for College Readiness provides the teacher with a set of easy to use tools to effectively monitor, guide and control all student computer usage and push content to individual students or an entire classroom. All **A+ STEAM Labs** for College Readiness integrate a range of presentation tools found in the highest tech classroom settings creating a turnkey, multi-media learning environment.

MAKING STEM ACHIEVABLE