4 STEAM Solutions to Help You Combat Learning Loss

by Liz Bowie

The Elementary and Secondary School Emergency Relief fund (ESSER) provides a much-needed infusion of aid to local education agencies. Districts can use these funds to mitigate learning loss caused by the COVID-19 pandemic, and one way they are doing this is by focusing on STEAM and project-based learning (PBL).

Many districts' STEAM initiatives will start with their summer school and after-school programs and gain momentum by integrating project-based learning throughout the school year.

Below you'll find four turnkey solutions designed to help your district get its STEAM programs up and running quickly to engage students and accelerate learning with meaningful hands-on projects.

Turnkey STEAM Solutions That Mitigate Learning Loss

1. Demco Deluxe Maker Collection with Challenge Guide

The Deluxe Maker Collection includes all the tools and lesson plans you need to support up to 30 makers at a time. Created by expert maker educators, the 160-page guide includes 23 leveled challenges grouped into three sections: Low-Tech Making, Robotics, and Energy & Power. Each challenge includes a teacher guide and reproducible student guide and requires 30–120 minutes to complete.

What Makes It a Great STEAM Solution?

- You get everything you need to get students making right away, including 13 different maker products that span robotics, coding, circuitry, designing and building, and arts and crafts.
- Students work through progressively more difficult challenges, moving from teacher-led instruction to student-led exploration.
- The lessons include real-world challenges that activate empathy, problem-solving skills, and creativity and

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lead to greater engagement and deeper learning experiences.

- The activities are designed to develop the 4 Cs: collaboration, communication, critical thinking, and creativity.
- Lessons can be set up as stations, with groups of students working through them at the same time, and can be offered independently, done over multiple sessions, or combined to create a series of mini-camps.
- The lessons cover a wide grade range (grades 3–7) and include adaptations for age and skill levels.
- Lessons are aligned to NGSS and ISTE standards and can be integrated into your year-round curriculum.
- If you want to start making on a more foundational level, you can explore the Low-Tech Maker Collection and Challenge Guide.
- If you already have the STEAM tools needed for these lessons, you can also purchase just the Challenge Guide.

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2. TeacherGeek Maker Cart and Student Activity Kits

With over 17,000 components and access to build guides, design challenges, and a video library, this mobile cart makes a perfect solution for whole-school STEM learning. The cart comes equipped with a plethora of components and tools, including gears, wheels, motors, screws, wire cutters, hammers, and soldering irons.

What Makes It a Great STEAM Solution?

- You can quickly start a STEM program for hundreds of students by pairing the thousands of components included in the cart with engaging activities aligned to NGSS and ITEEA standards.
- The mobile cart allows you to take supplies anywhere in the school. And it comes almost completely assembled — just attach the sign, add the tools, fill the bins, grab a project guide, and start making.
- Engaging activities in the design guides encourage students ages 9 and up to apply what they are learning in core curriculum areas to solve design and engineering challenges.
- Throughout each activity, students will explore the design process: design, build, test, evaluate, and redesign.
- You can also target specific topics such as hydraulics, wind power, or electronics with individual TeacherGeek Student Activity Kits.
- Replacement components are available to continue STEM learning for years to come.

3. Demco Wonderosity Kits

Wonderosity Kits include lessons and activities based on engaging themes that cultivate curiosity and motivate students in grades 3–7. Whether they're learning how to be spies, creating their own videos, or hunting Bigfoot, students will build 21st century skills while focusing on physical activity, technology, creative arts, and reading. Along with detailed lesson plans, you'll also get promotional materials and incentives to help you motivate and reward students.

What Makes It a Great STEAM Solution?

- Inquiry-based activities pique students' interest and ensure engagement.
- Detailed lesson plans include supply lists, step-by-step instructions, skills learned, and tips for adapting for different age levels.
- Hands-on activities support language arts, mathematics, science, social studies, technology, creative arts, and maker education.
- Students develop 21st century skills such as creative thinking, problem-solving, and collaboration.
- The four lessons within each kit can be offered independently, done over multiple sessions, or combined to create a series of mini-camps.
- In addition to the program guide, themed activity books, marketing posters, completion certificates, and incentives are included with each kit. Each item is also available separately so you can run the program multiple times for as many students as you want.

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4. Flex Farm Hydroponic Growing System

The Flex Farm is a self-contained, portable indoor growing system that uses energy-efficient LED lighting to grow healthy and delicious food. Setup and upkeep are quick and easy enough to involve students at every grade level. Corresponding hands-on lesson plans turn the Flex Farm into a one-of-a-kind cross-curricular learning tool.

What Makes It a Great STEAM Solution?

- Written by a team of educational professionals, the interdisciplinary curriculum is divided into K–2, 3–5, 6–8, and 9–12 age groups, which each include eight STEM, innovation, and health-oriented lesson plans.
- The short turnaround time between planting and harvesting helps to drive home lessons.
- Hydroponic agriculture is an excellent alternative for schools that don't have space or time to grow food outdoors.
- Students can enjoy the benefits of interacting with nature year-round, which has been shown to positively influence mental and emotional well-being and increase academic achievement.

- The space-saving, innovative design requires just one grounded electrical outlet, less than 10 square feet, and has an accessible water source like a sink.
- Fresh crops can be used in school food programs, donated to local food pantries, incorporated into micro-enterprise and fundraising projects, and more.

After a year of challenges and disrupted learning, project-based STEAM activities provide the perfect vehicle to engage students and help them overcome pandemic learning loss. Learn more about the benefits of PBL in "Why You Need to Implement Project-Based Learning Right Now."

Author

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