FLUX

Bring Hands-on Learning to Life

Educator's Guide

A practical guide to laser cutting in K–12 and CTE classrooms —no experience required.

What This Guide Can Help You with.

Whether you're leading a makerspace, starting a CTE course, or just trying to make time for creative work, you’re not alone.

Teachers everywhere face the same tough questions:

- How do I fit hands-on projects into an already packed schedule?
- Where can I find safe, easy tools that support hands-on learning?
- How do I keep students engaged while building real-world skills?

Inside this educator guide, you’ll find practical setups, student-ready projects, and classroom-tested strategies to make it happen—with laser cutters that actually fit your needs.

Why Educators Choose FLUX.

Built-in K-12 Teaching Resources

FLUX offers ready-to-use lesson plans aligned with ISTE standards, along with setup tutorials, student project guides, and evaluation tools. Each kit includes SVG files, editable templates, and step-by-step teaching materials, perfect for busy classrooms.

Built for Safety – Class 1 Laser

Every FLUX laser cutter comes equipped with essential safety features—including emergency stop, automatic pause when the lid is opened, and enclosed design for safe viewing.

All models are Class 1 lasers and fully certified (CE, FCC, FDA), trusted by hundreds of schools worldwide for daily classroom use. (add IEC 6085-1)

Easy for Teachers, Engaging for Students

FLUX laser software – Beam Studio's drag-and-drop interface means you don't need a design background. Most students can operate the machine independently after just one session.

Supports STEAM Learning

FLUX lasers fit naturally into STEAM, design, math, science, social studies, and entrepreneurship, helping teachers create applicable teaching kits for each lessons.

What Students Can Make.

Real classroom projects, from elementary to capstone.

Maker Education

FLUX lasers make it easy to bring hands-on creativity into any grade level. Even younger students can design and create something meaningful, and take it home. These one-period projects are perfect for sparking engagement across subjects and age groups.

Introductory Hands-on Learning

Course Focus:

Creativity, foundational design, and tangible success in one class period.

Skills Developed:

Vector-based drawing, design-to-production workflow, basic personalization.

Example Project - Name Tag:

Students design and engrave their own wooden name badge using Beam Studio and preloaded fonts. A perfect low-pressure intro project for new users.

Classroom Use Case:

Great for 45-minute sessions, back-to-school icebreakers, or enrichment blocks.

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Cross-Discplinary STEAM Projects

FLUX lasers help students turn abstract ideas into real-world builds, Whether it's calculating proportions in math, testing balance and motion in physics, or designing for user experience in art, students make direct connections between what they learn and what they create.

Integrated Learning Units

Course Focus:

Collaborative prototyping, testing, and real-world engineering.

Skills Developed:

Force, motion, balance, mechanical efficiency, iteration, spatial reasoning.

Example Project - Design a Car:

Students sketch, build, and test their own custom laser-cut car using real physics concepts. Includes wheels, chassis, and performance evaluation.

Classroom Use Case:

Works well across 2–3 class periods. Students document results and redesign based on test data.

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Entrepreneurship & Product Design

FLUX lasers empowers students to think like creators and sell like professionals—bridging design, branding, and entrepreneurship in one hands-on course.

Career Readiness Focus

Course Focus:

Brand creation, packaging, pricing, and storytelling through product.

Skills Developed:

Product-market fit, visual identity, packaging design, user-centric thinking.

Example Project - Design a Logo:

Students develop their own personal or product logo using raster/vector techniques, then apply it to branded objects like tags, packaging, or keepsakes.

Classroom Use Case:

Great for capstone branding units or student-led product design.

Scan to Watch Curriculum Video

Choosing the Right Machine

	beamo	Beambox II
		
Power	30W CO2 Laser	55W CO2 Laser
Dimensions	24.2 x 17.5 x 7.0”	39.6″ x 27.2″ x 13.2″
Working Area	11.81 x 8.27”	23.62” x 14.76”
Weight	48.5 lbs	107 lbs
Ideal Classroom Use	Quick maker lessons, visual arts	Cross-curricular STEAM projects
Grades Level	Grades 1-6	Grades 6-10
Operating System and Browser	Windows / macOS / Linux / ChromeOS / iPadOS	

Worried about Smoke?

Beam Air

- Compact Design for Every Classroom
- 3-Layer Filtration System

Best for FLUX Lasers: beamo, Beambox Series, Ador
Applicable to all other brands

For Your Classroom

HEXA	Ador
	
60W CO2 Laser	10W / 20W Diode Laser
43.7 x 26.4 x 10.8”	25.1″ x 19.2″ x 8.9″
28.74 x 16.14”	10W: 16.93″ x 11.81″ 20W: 16.93″ x 11.42″
127.9 lbs	41.9 lbs
Showcase builds, engineering challenges	Branding, packaging, entrepreneurship
Grades 10 -12, College	Grades 10 -12, CTE

Windows / macOS / Linux / ChromeOS / iPadOS

Meet Our Air Purifiers

Beam Air Pro

- U16 Lab Grade Advanced Filter
- 4-Layer Filtration System
- Smart Filter Replacement Monitor

Best for FLUX Lasers: beamo, Beambox Series, Ador, HEXA
Applicable to all other brands

Recommended Classroom Setups

Quick-reference setups based on classroom type, subject focus, and project depth.

Elementary Classroom Maker Lab

↳ **beamo 30W Laser + Beam Air + beamo Rotary**

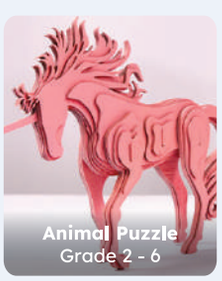
A compact, classroom-safe setup that fits on a desk and gets students making fast. Ideal for art class, library makerspaces, or pull-out STEAM sessions.

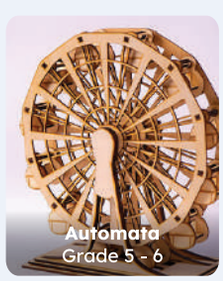
Real Life Setup Scene

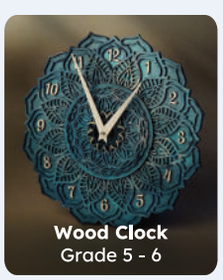
beamo (on the desk)
Beam Air (under the desk)

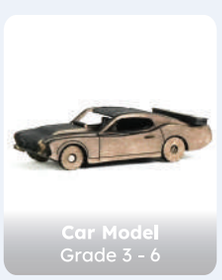
Work with 100+ Materials

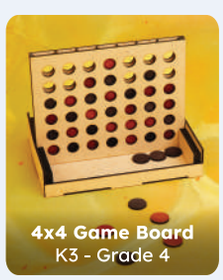
Including Cardboards / Woods / Acrylics / Glass / Stone and more..











High School Project-Based Course

↳ Beambox II 55W Laser + Beam Air Pro + Chuck Rotary

This set up lets students build more than flat designs. From packaging to prototypes, they create full-scale, functional work that connects STEAM, design, and branding—all in one setup.

Real Life Setup Scene

Beambox II (on the desk), Beam Air Pro (under the desk)

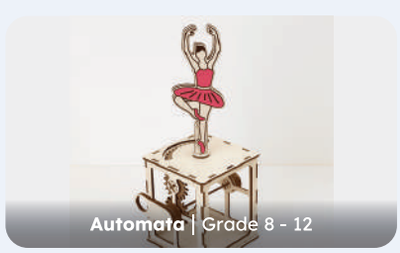
360° Product Mockup
Grade 8 - 12

Large Working Area

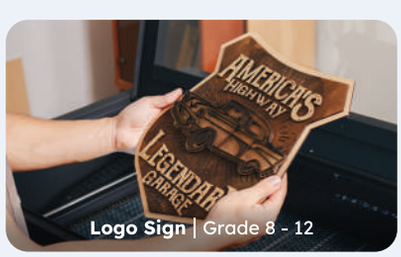
Perfect for Large-Scale Prototypes, Classroom Tools, and Functional Builds. Let students create big ideas—without size limitations.

Acrylic Brand Menu
Grade 8 - 12

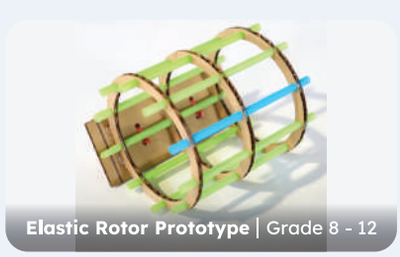
Framed Plaque | Grade 4 - 12



Automata | Grade 8 - 12



Logo Sign | Grade 8 - 12



Elastic Rotor Prototype | Grade 8 - 12

CTE Lab or Innovation Studio

↳ Ador + Printing Module

For schools running advanced design, business, or entrepreneurship programs, this setup empowers students to move from concept to market-ready products.

With full-color printing, laser engraving, cutting, and modular space, Ador gives students the creative freedom to prototype and present like real creators.

Real Life Setup Scene Ador (on the desk)

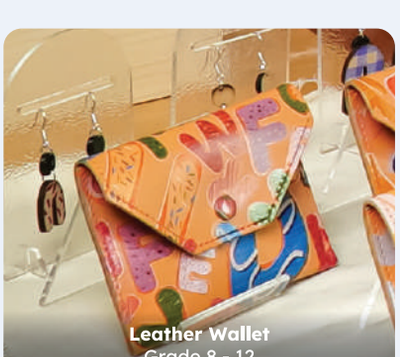
Paper Packaging
Marketing, Business, Entreprenuership

Color Print, Laser Cut, Laser Engrave.

Ador turns your CTE lab into a full-cycle creation space, letting students print, cut, and engrave real products in one workflow.

Canvas
Grade 4 - 12

Jigsaw Puzzle
Grade 1 - 8



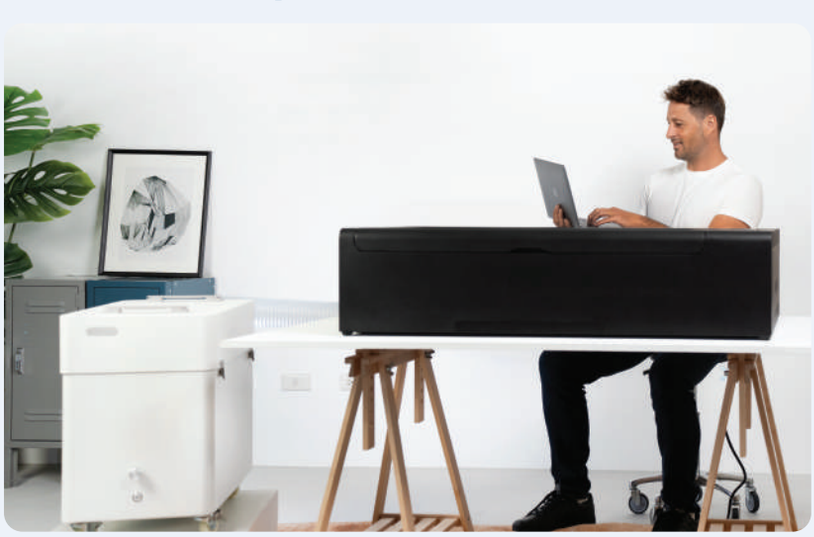
Leather Wallet
Grade 8 - 12

Advanced Prototyping & Fabrication Studio

↳ HEXA 60W Laser + Beam Air Pro + Chuck Rotary

With its large working area and industrial-grade precision, HEXA supports advanced projects across architecture, engineering, product design, and art. Whether you're building 3D models, layered compositions, or functional prototypes, HEXA empowers students to fabricate at scale with professional quality.

Real Life Setup Scene HEXA (right), Beam Air Pro (left)



Miniature Design

Architecture Prototype

Curriculum for Every Educational Phase

FLUX's K–12 curriculum gives you everything you need, from day-one lessons to semester-long projects.

Kindergarten to Grade 3

With 10 Courses, Online Video Lectures, Project Worksheets

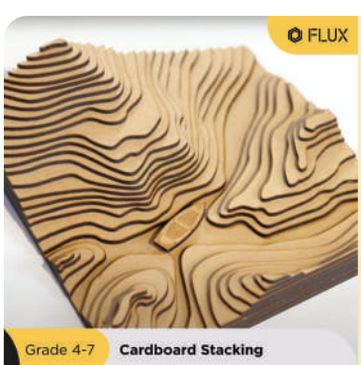
Teachers get:

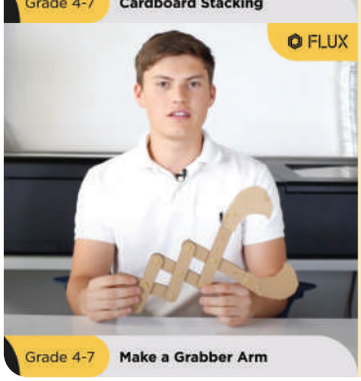
Easy-to-follow projects with editable files and printable worksheets, no laser experience requried.

Students will:

Develop spatial awareness, basic engineering logic, and visual storytelling through hands-on building.

Scan to Get Full Digital Teaching Kits & Project Worksheets





Grade 4 to 7

With 10 Courses, Online Video Lectures, Project Worksheets

Teachers get:

Full unit plans with pacing guides and outcome checklists. Classroom-tested materials and instructional scaffolding.

Students will:

Strengthen problem-solving, measurement & geometry, and iterative design thinking while connecting concepts to real-world challenges.

Scan to Get Full Digital Teaching Kits & Project Worksheets

Grade 8 to 12

With 10 Courses, Online Video Lectures, Project Worksheets

Teachers get:

Rubrics and templates for project-based assessments. Curriculum aligned with CTE, design, and entrepreneurship pathways.

Students will:

Build systems thinking, visual communication, and project management skills as they prepare real-world solutions.

Scan to Get Full Digital Teaching Kits & Project Worksheets

Laser Cutter 101 for Educators

Free training kit for teachers. Includes slides, videos, and activity guides

Learn how to set up your FLUX laser cutter, navigate Beam Studio, and run your first project with confidence. Built for new users—no experience needed.

What Educators Get to Learn from Laser Cutter 101:

- Basic Machine Setup
- Classroom Safety Tips & Workflow Best Practices
- Beam Studio for Teaching

Scan to Get Full Digital Teaching Kits & Project Worksheets

Beam Studio

Smart & Simple for Every Classroom

Free laser cutter software built for FLUX Lasers, Beam Studio works on desktop, tablet, and mobile, enabling seamless creation across multiple platforms. Start your project in Beam Studio, using its powerful built-in features, or fine-tune your designs later using a comprehensive set of post-processing tools.

Compatible File Formats and Design Software

SVG / PNG / JPG / DXF / PDF / AI / WEBP

- Adobe Illustrator
- Adobe Photoshop
- LightBurn
- Sketch
- Autodesk AutoCAD
- SketchUp
- Rhinoceros
- Corel Draw
- Affinity Design

Supported Operating Systems

- Windows 10+
- MacOS 11+
- Linux 20+
- ChromeOS
- Chrome or Safari Recommened

Why Beam Studio Works in Your Classroom

Beam Studio helps teachers create faster, teach clearer, and get great results.

100,000,000+ Ready-to-Use Graphics

No need to design from scratch, quickly find shapes and icons to build your lesson project.

Preset Material Parameters

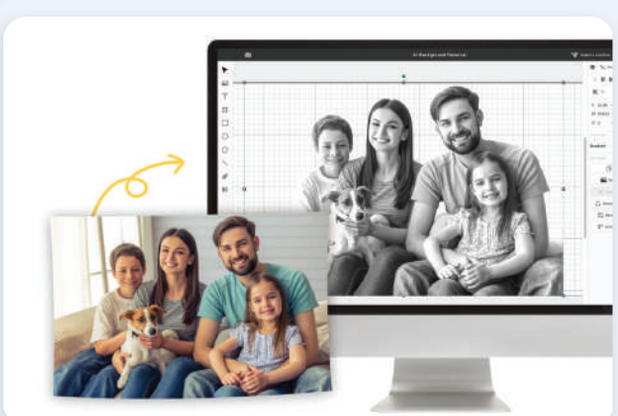
Pre-calibrated settings for wood, acrylic, and more. Just select and go.

Camera Preview

Visualize and align materials with real-time camera view, perfect for teaching and precision cuts.

Streamline Workflow with Smart Features

Background removal, box and code generators help prep your files faster, smarter, and classroom-ready.



Questions & Answers

Teaching & Student Experience

Do I need to be tech-savvy to teach with a laser cutter?

Not at all. Our teacher training kit includes step-by-step videos, lesson plans, and a full “Laser Cutter 101” guide. Most teachers run their first project in under 30 minutes.

Will my students be able to use it?

Yes. The intuitive drag-and-drop Beam Studio software and built-in camera preview make it accessible even for first-time users. Most students are confidently operating the machine by their second session.

How much prep time do I need before teaching my first project?

Very little. Our "Laser Cutter 101" onboarding toolkit walks you through your first classroom setup, including project ideas, settings, and troubleshooting tips. Most teachers are classroom-ready in a single prep period.

Safety & Maintenance

Is FLUX safe for school environments?

Absolutely. All FLUX models are Class 1 lasers with fully enclosed designs, automatic lid interlocks, and emergency stop buttons. Optional fume extractors ensure a clean, safe space.

What kind of upkeep is required?

Minimal. Regular cleaning of lenses and mirrors takes a few minutes each week. We provide simple checklists, and your students can even help as part of routine maintenance.

What if something goes wrong during class?

We’ve got your back. Our U.S.-based support team offers same-day troubleshooting, and replacement parts are shipped from California. Plus, our machines are built to be classroom-tough and easy to recover from mistakes.

Software & Curriculum

Do I need to install complex software?

No. Beam Studio works on Windows, Mac, and Chromebook without admin-level installation. Offline mode is supported for most models.

Are lessons aligned with standards?

Yes. We offer plug-and-play curriculum units that align with ISTE, NGSS, and CTE frameworks. Every lesson includes objectives, rubrics, and extension ideas for differentiation — no extra planning required.

Funding & Decision-Making

Can I include this in a grant proposal?

Yes. We provide grant-writing language, quote templates, and outcome samples that fit common education grants.

How do I convince my school to support this?

We'll help. Our team can provide demo videos, implementation guides, admin-ready proposals, and even join your school board presentations if needed.

About FLUX Lasers

Designed for Classrooms. Built for Creativity.

FLUX provides powerful, easy-to-use CO_2 laser cutters & color printing laser cutter that turn any idea into a tangible project.

With models like beamo, Ador, Beambox Series, and HEXA, FLUX lasers are trusted by teachers, makerspaces, and STEAM educators around the world.

Whether you're teaching elementary school or high school, FLUX helps students learn by doing — with endless possibilities.

Local Support

With an extensive network of over 190 partners spread across 70+ countries, you can count on us to be there whenever you need assistance.

10-years Experience

Leveraging over a decade of unparalleled expertise in the 3D printing and laser cutting industry, we are dedicated to providing top-tier solutions that exceed customer expectations.

Class 1 Safety

At FLUX, we prioritize safety above all else and consistently design laser cutters to Class 1 Safety standards, providing you with peace of mind.

Educators in Action

Julia M.
Middle School STEAM Teacher

Julia, a STEAM teacher at a U.S. public school, integrated FLUX beamo into her classroom to teach design thinking through hands-on creativity.

“My students designed classroom organizers, and I taught them how to use the laser cutter to make themselves. They were thrilled with the results...”

Scan to read the whole article

Korea University
Department of Mechanical Engineering

At Korea University, the **beamo: STEAM Upcycling Program** transforms e-waste into art, challenging students to think creatively about sustainability and engineering through hands-on, interdisciplinary STEAM projects.

Scan to read the whole article

Slice of Life
Movie Creator

Film artisans Slice Of Life are using FLUX Beambox Pro to craft intricate architectural and film miniatures with unmatched speed and accuracy. The laser tool replaces time-consuming manual cutting, reducing human error and enabling students to focus on structural design, spatial modeling, and professional fabrication practices.

Scan to read the whole article