

## Biology is reshaping the world. The talent pipeline isn't keeping up.

Over the past 20 years, **the U.S. life sciences industry added jobs at nearly 10x the rate of broader workforce** (79% vs 8% growth). Yet most students still have little access to hands-on biotechnology education. Employers can't recruit their way out of the talent gap if classrooms don't teach biotech.

BioBuilder, founded at MIT in 2011 by Dr. Natalie Kuldell with support from the National Science Foundation, changes the model for high school science education with a complete and proven system that adapts to any school, district, or state. Partnering with leading organizations across the pharmaceutical industry, government and education system, BioBuilder aligns its curriculum to real world needs and academic demands.



Seeing people who were so excited and so passionate about science lit a fire in me. It was the first time I could imagine myself as a scientist."

— **Kevin Fuentes**, 2019 BioBuilder Alum, now a research associate at Sunflower Therapeutics

94K+

Students Reached

660+

Teachers

50

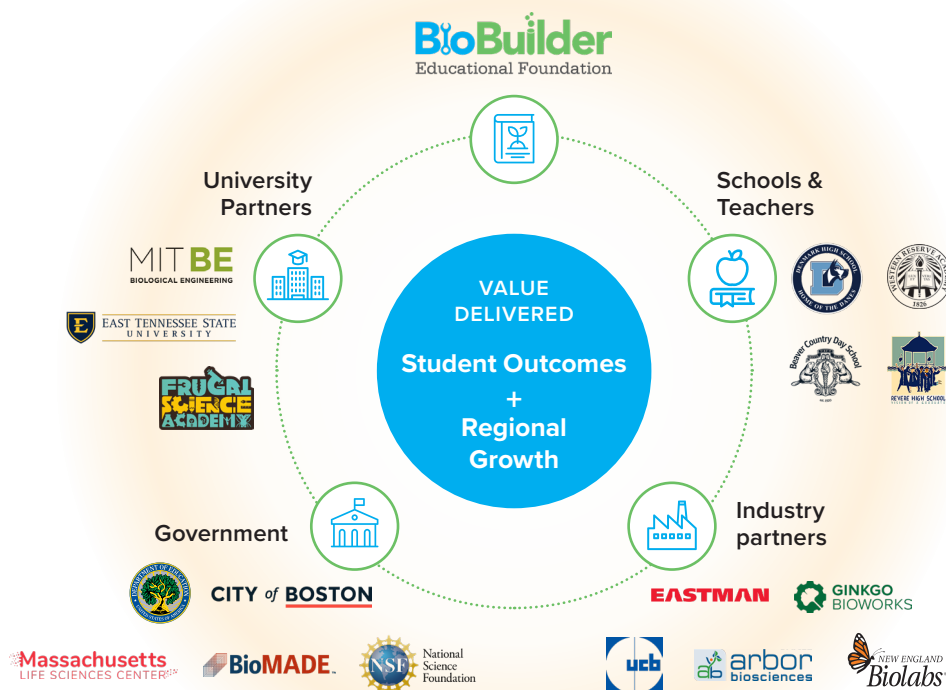
U.S. States

87

Countries

## The BioBuilder Coalition Model

BioBuilder has spent **15 years moving biotechnology education into high-school classrooms in all 50 states and 87 countries.** Its strength lies in its agile program structure that works with local stakeholders to adapt to regional context. This model has been proven in three very different states: a curriculum-led model in Massachusetts, a workforce-led model in Tennessee, and a club-led model in Georgia. The agile design is ready to launch in additional states.



## How It Works

### Classroom and Lab Curriculum

*BioBuilder + BioTechBuilder*: hands-on curriculum that works in any classroom +/- specialized lab equipment. Backed by an O'Reilly Media textbook and lab kits distributed via Carolina Biological Supply. 88% of students would recommend a BioBuilder class.

### Teacher Training

Three models for professional development, from free online videos to weeklong in-person workshops, plus a train-the-trainers model where master teachers train peers, scaling adoption without growing BioBuilder headcount.

### Industry Credentials

Students earn stackable, industry-recognized credentials through 3rd party providers (e.g. BCSI, BACE, NOCTI). In a local pilot, 100% of students earned at least one credential enabling direct entry into the bioeconomy with no 4-year degree required.

### Nationally Recognized Model

BioBuilder is successfully deployed through classroom, workforce/CTE, and club-based programs in multiple states. Recognized by the National Security Commission on Emerging Biotechnology (NSCEB) as a model for advancing bioliteracy and strengthening America's biotechnology workforce, the program is design to scale region by region.



When you're hiring someone from BioBuilder, they've been in a lab for a period of time, and their skills have been measured."

— Kerry Black, Head of Early Solutions, UCB Biosciences

## What It Looks Like in Practice

### East Tennessee · Workforce-Led · \$100 in economic value for every \$1 invested

A regional economic developer visited BioBuilder's Boston Learning Lab, saw high school students running real genetic experiments, and recognized the missing piece for Appalachia's biotech ambitions. Today, 1,400+ students across 7 high schools take BioBuilder as required 9th-grade biology. Embedded in a state-approved BioSTEM CTE pathway, the program qualifies for TiSA funding, making it financially durable. The return: \$100 in local economic value for every \$1 invested in BioBuilder in 2019.

### Georgia · Club-Led · 8× Growth in 3 Years

What began as 2 after-school clubs in 2022 grew into 11 schools hosting 20 bioengineering teams with no top-down mandate—student energy spread teacher to teacher. In March 2026, 168 students from 3 states gathered for a Southeast Final Assembly. Georgia Tech's Frugal Science Academy hosts the kickoff and teacher PD. Next year Denmark High School, a Title I majority-minority school, will launch its first-ever internationally competitive bioengineering team directly out of its BioBuilderClub.