MIT pK-12 Network
Welcome Webinar
January 15, 2020
12 – 1 pm EST
Dr. Lana Cook
Leadership Giving and Strategic Initiatives Officer
Today’s Session

● What we’re hearing
● The pK-12 landscape at MIT
● Get involved: students, educators, parents
● Preview of upcoming episodes
● pK-12 Convening 2020
● Your questions
What We’re Hearing from Alumni

“Support MIT K12 programs in their local schools via MIT alumni club activities.

“Can alumnae be ‘ambassadors’ for bringing a new learning experience to children?”

“Volunteer in their local classrooms”

“Take learnings from MIT back to their communities.”

“Some alums are entrepreneurs in this area- help us find you and collaborate!”
Our Charge


- Reinvent education for all
- Invigorate STEM education worldwide at the pK-12 level
- Define a K-12 strategy for the Institute
Uniqueness of MIT’s pK-12 Efforts

- Mens et Manus
- Evidence-based
- Entrepreneurial
- Flexible & Modular
- Accessible
- Scalable
pK-12 Action Group

Curriculum
Technologies and Tools
Courses & Programs
Physical Spaces
Research
Curriculum

Modules, activities, teacher guides, magazines, booklets, case studies, video.

- Jameel World Education Lab (J-WEL)
- Beaver Works
- Edgerton Center
- Lemelson-MIT
JV InvenTeams: Chill Out

The JV InvenTeams Chill Out Activity Guide will lead educators and students through creative applications of heat and heat transfer and exploring topics such as:

- Build a lunchbox
- Convection, conduction, and radiation
- Heat and energy
- Electricity and circuits
- Peltier prototyping

Educator Guide
Student Guide

Download the list of materials and tools used in this guide.
Technologies and Tools

Games, simulations, assessments, NotaBene (NB), grade checkers

Example: Shadowspect from Playful Journey Lab and Education Arcade
Programming Environments

Scratch
App Inventor
StarLogo
Courses and Programs: For Students

Onsite MIT courses and workshops:

**Spark**
Grades 7-8  
Weekend: March 14-15, 2020  
Registration opens in 2020

**BoSTEM Academy**
Rising 10th - 11th graders from Greater Boston  
July 6 – August 14  
Application opens Spring 2020

**Lemelson-MIT**
Middle and high school
MIT Office of Engineering Outreach Programs

MITES

APPLY IN 11TH GRADE
This intense six-week program immerses students from across the country in life at MIT. Students take academically rigorous math, science & humanities courses. Outside of the classroom, they participate in admissions counseling sessions, lab tours & social events.

LEARN MORE

MOSTEC

APPLY IN 11TH GRADE
This online program lasts six months and includes a five-day conference at MIT. From June to January, students from across the country discuss research, receive admissions advice, attend webinars, and complete projects that they present at MIT in August.

LEARN MORE

SEED

APPLY IN 7TH THROUGH 10TH GRADES
On Saturdays during the academic year, public school students from Boston, Cambridge and Lawrence take hands-on courses that expose them to new areas of science and engineering. Students also attend seminars from college admissions and industry professionals.

LEARN MORE
The MIT Women's Technology Program (WTP)

Rigorous four-week summer academic and residential experience where high school students explore engineering through hands-on classes, labs, and team-based projects in the summer after 11th grade.

Deadline: TODAY January 15, 2020
APRIL 17-26, 2020
CAMBRIDGE
SCIENCE FESTIVAL!
Courses and Programs: For Educators

Online

- MITx on edX
- OpenCourseWare Educator
- Teaching Systems Lab
- The Education Arcade
- Learning Creative Learning & Scratch in Practice
MITx

- Advanced high school level courses that are equivalent to the first-year courses offered on the MITx campus: https://onlinecourses.mit.edu/
- Includes biology, computer science, physics, etc.
- AP curriculum: Microeconomics and Calculus

11.154x Launching Innovation in Schools

INSTRUCTORS: Justin Reich, Peter Senge
START DATE: February 4, 2020
Science and Engineering Program for Teachers (SEPT)

Up to 60 outstanding educators from secondary schools worldwide who teach science, technology, engineering, and/or math (STEM) subjects:

- Track 1: "Broadening Participation in STEM"
- Track 2: "Bringing Project-Based Learning & Inquiry into STEM Classrooms"
- Track 3: "Use and Design of Games and Simulations"

**Application deadline:** February 17, 2020

**Program Dates:** July 5-11, 2020
Edgerton Center Workshops

3-D Modeling and Printing: April 29, June 23, July 6, 14
Laser Cutter, Vinyl Cutter, and 2-D Modeling: April 28, June 24, July 7, 15
Design & Operate a Makerspace, w/ Shop Tool Training: May 5, 22, July 13
Electronics for Makers: April 8, June 18, July 8
Physical Computing with Micro:bit: April 9, June 19, July 10
Physical Computing with Arduino: April 7, June 17
Making with Music 1, 2: April 30, May 7
Maker Project Design: May 6, July 9
Master Making in the Classroom: July 16, 17, October 1, 29
Physical Spaces

Technology Enabled Active Learning (TEAL)

MakerSpaces

Examples:
Edgerton Center’s online Makerspace resources and onsite teacher workshops
Research

- MIT Integrated Learning Initiative
- Early Childhood Cognition Lab
- Gabrieli Lab
- School Effectiveness and Inequality Initiative
- Jameel World Education Lab
- Jameel Poverty Action Lab
- Lifelong Kindergarten Group
- Playful Journey Lab
- Teaching Systems Lab
The new pK-12 Action Group is a new effort that will bring MIT’s unique “Mind and Hand” learning approach beyond the campus to pre-Kindergarten through grade 12 (pK-12) learners and teachers around the world, building upon existing efforts and developing new ones. The Action Group will fill a growing need in STEM education by initiating new research, design, and outreach programs that will transform how students learn – and our understanding of how students learn.

According to Professor Angela Belcher, the co-chair of the Action Group, this pK-12 effort will act as a “catalyst to bring people together, not just people at MIT, but people all over the world, to amplify progress, ideas, solutions, and education at all levels.” Our goal is not only to provide access to quality education at scale, but to also “develop communities of the future thinkers and doers of the planet to make the world a better place.” There is such great passion and activity across the campus aimed at enhancing precollege STEM education. “We are now building upon that important foundation to create programs that engage growing numbers of diverse learners and educators through design, research and implementation of educational innovations. This is an exciting time to be actively engaged in this space on campus,” adds Professor Eric Klopfer, who joined recently Professor Belcher as the co-chair of the group.
Welcome to MIT

Join us on campus or bring our digital tools into your homes and classrooms – we have over 100 outreach programs that offer a glimpse inside our labs, our classrooms, and our innovative spirit.

What are you looking for?

Visit Campus  Learn Online  Learn Off Campus  Professional Development  Learning Research
Upcoming Episodes

March 18: “STEAM Curriculum”

May 20: “Local Community Engagement” with Rohan Kundargi, MIT Government and Community Relations

For schedule and recordings, visit pK12.mit.edu/network
pK-12 Network Convening

September 2020: Alumni Leadership Conference, MIT

1-2 day training workshop and summit on:
● Running activities in your schools
● Volunteerism and mentoring
● Policy and advocacy

Seeking a dedicated team of alumni and friends of MIT to join planning committee. Contact pK12network@mit.edu to learn more.
Next Webinar
March 18, 2020
12 – 1 pm EST
MIT pK-12 NETWORK