

LEMELSON-MIT

Celebrating invention, inspiring youth

Invention Education Opportunities

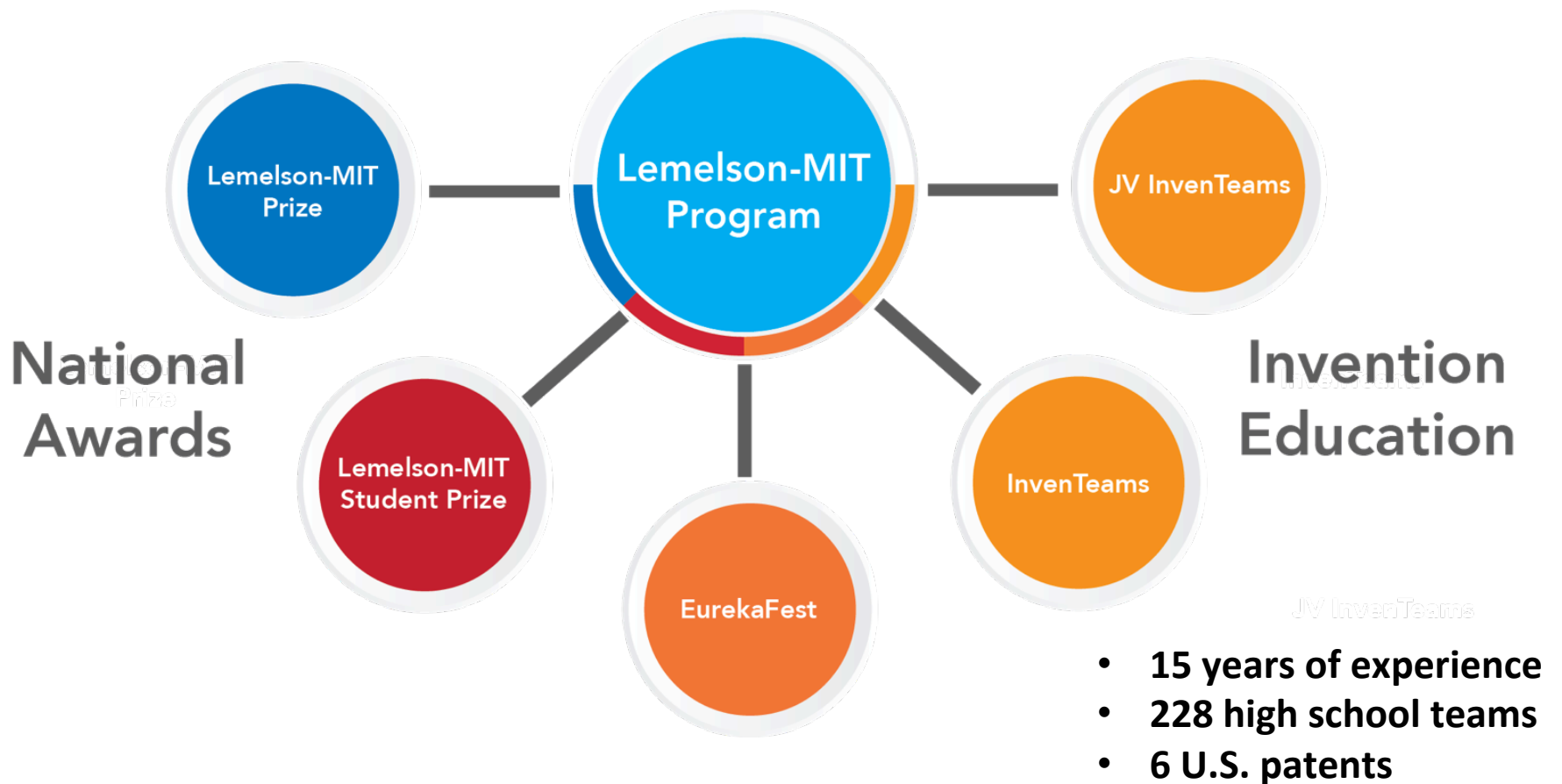
Invention Education
Webinar Series



Thursday, October 19, 2017

6:30 – 7:00 p.m. ET

Lemelson-MIT Program Overview



Presenter Tony Perry

- Invention Education Coordinator, Lemelson-MIT program
- High School Science Teacher at Sarah E. Goode STEM Academy
- Managed public programs at Chicago's Museum of Science and Industry

Lemelson-MIT InvenTeam Experience

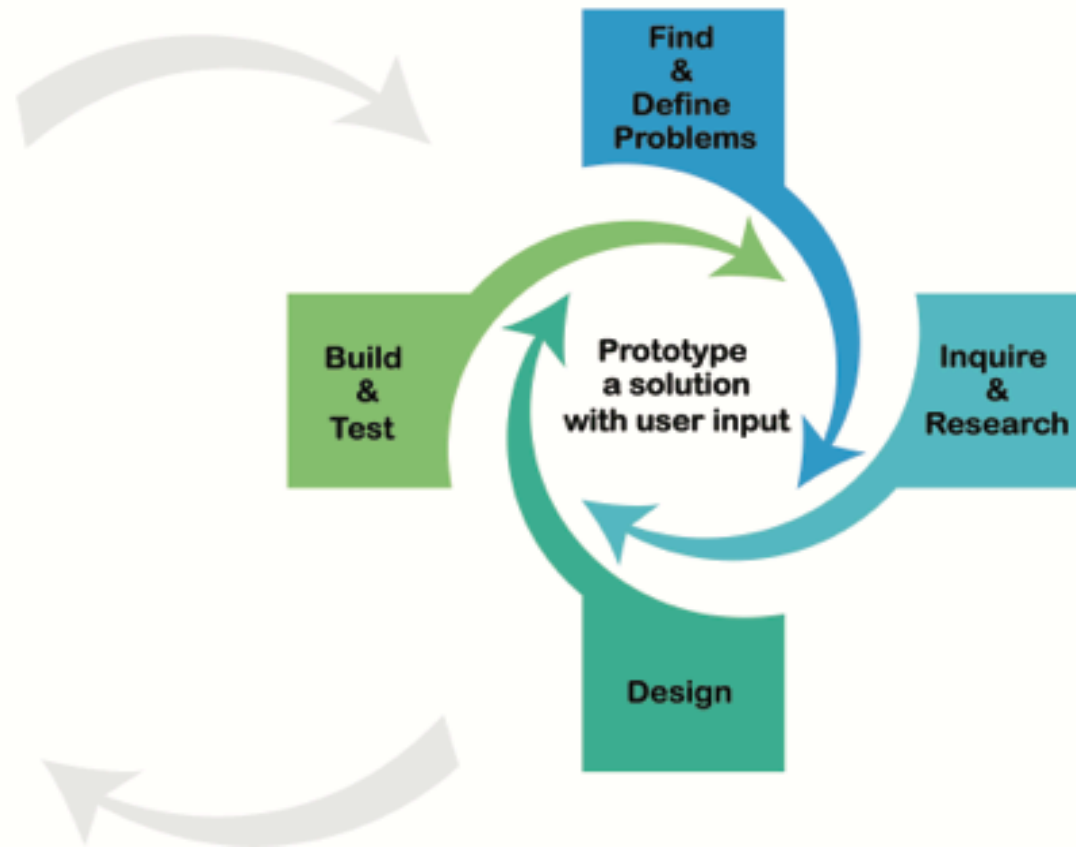


Invention Cycle

Invention Cycle

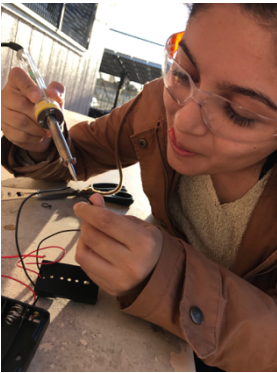
ENTRY POINTS
through knowledge,
skills & interests

- STEM
- STEAM
- Arts
- Humanities
- Robotics
- Coding
- Participatory Youth
Action Research
- Career & Tech Ed
- Fab Labs
- Maker Spaces
- Entrepreneurship

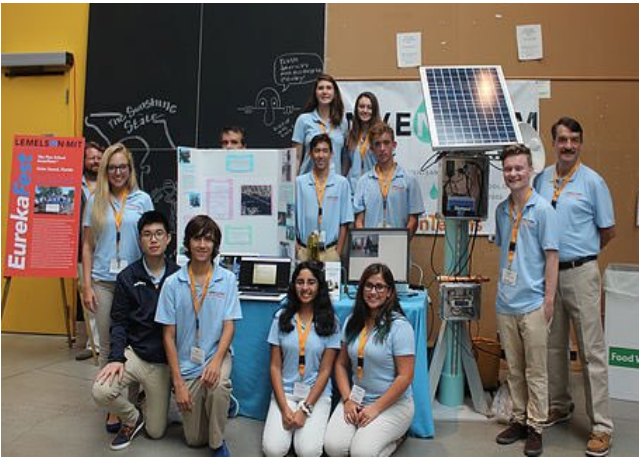


InvenTeam Invention Experiences

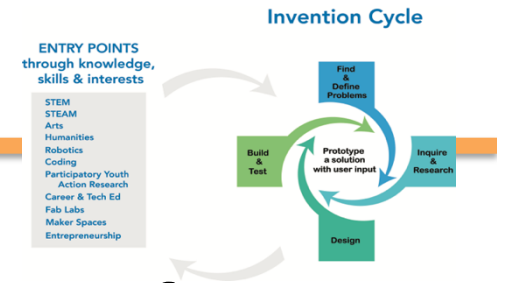
2017 DIY Girls InvenTeam San Fernando, California



2017 The Pine School InvenTeam Hobe Sound, Florida



Invention Cycle

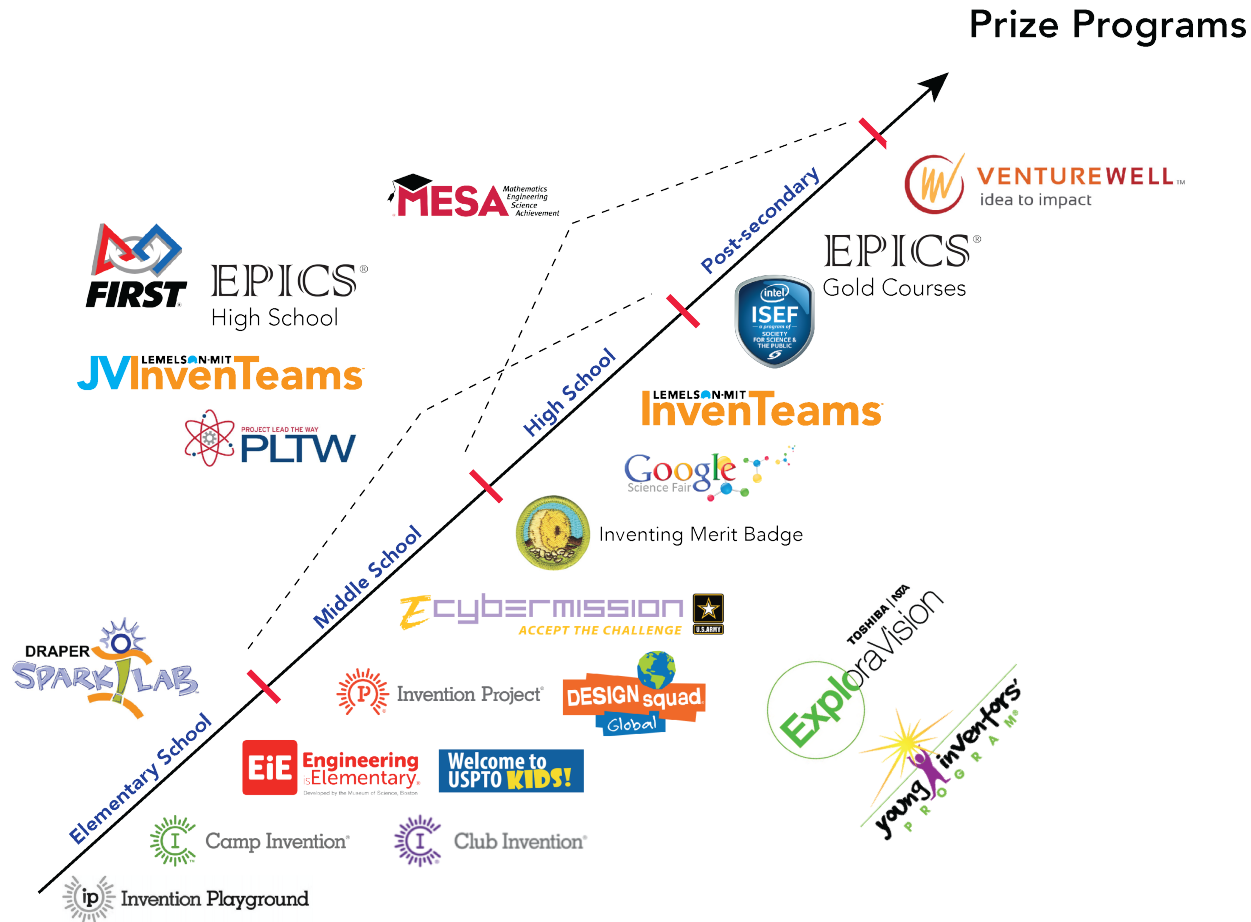


- Students *and* teams enter from their area of strength
- Students have individual skills on teams and develop other skills throughout the inventing process
- Students are “Just-In-Time” learners

**Start with strengths and use inventing
as an opportunity to learn**

National Program Opportunities

Inventing Opportunities



Age
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Draper SparkLab (elementary age)

Museum-based space at the Lemelson Center for the Study of Invention and Innovation in the Smithsonian Museum of Natural History and in affiliate museums worldwide.

Focus: Hands-on designing of solutions with *everyday materials*



Invention problems:

<http://invention.si.edu/current-sparklab-activities>

Facilitation guide:

<https://americanspaces.state.gov/home/wpcontent/uploads/2017/01/spark-lab-facilitator-october-2015.pdf>

eCYBERMISSION (grades 6-9)

National competition administered by the National Science Teachers Association for the U.S. Army Education and Outreach Programs.

Focus: Student teams choose a “mission” theme (e.g., environment, alternative energy). Research and use (STEM) to help solve a problem in one of the theme areas and submit online a “mission folder” describing their work. Local, regional, and national events.

<https://www.ecybermission.com/>











JV InvenTeams (MS and early HS)

Eight themed Activity Guides available for free download

Focus: Safely use tools and explore new materials to work on hands-on and minds-on projects.

Build skills and confidence while creating useful and unique objects.

JV LEMELSON-MIT **InvenTeams**[™]

Shoe Soles: Design & Pattern Transfer	 SHOE SOLES
Electronic Textiles: Wearable Technology	
Growing Green: Urban Hydroponics	
Chill Out: Heating & Cooling	
Pump it Up!: Human Power & Energy	
U Control: Simple Machines	
Noise Makers: Speakers & Instruments	
Super Lens: Optics	

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InvenTeams (grades 9-12)

National Grants Initiative

Awarded to up to 15 teams each year to conceptualize, design, and build their own inventions that will be showcased at MIT



LEMELSON-MIT
InvenTeams[™]

Two-Step Application Process

Step 1-Teacher

Due April

- School and teacher information
- Letter of recommendation
- Statement of interest in inventing
- Resume

35 finalists are selected and brought to EurekaFest for training and inspiration at MIT in June

Step 2-Students and Teacher

Due September

- By invitation to finalists who attended EurekaFest
- Full project proposal

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Local Invention Education Opportunities

- Colleges and universities
- Libraries and museums
- Local STEM businesses and nonprofit organizations
- Community education opportunities

Invent an opportunity!

Lemelson-MIT Resources

- Lemelson-MIT Program
<http://lemelson.mit.edu/>
- InvenTeams National Grants Initiative
<http://lemelson.mit.edu/inventeams>
- JV InvenTeams Curriculum Materials
<http://lemelson.mit.edu/jv-inventeams>
- Inventor Archive
<http://lemelson.mit.edu/search-inventors>

Invention Education Resources

PBS DesignSquad Website:

<http://pbskids.org/designsquad/parentseducators/program/global.html>

(Offers activities for design projects, lesson plans, and teacher's guides)

Instructables and TinkerCAD:

<https://www.instructables.com/>

<https://www.tinkercad.com/>

(Autodesk products providing contests and project ideas great for engineering and design projects)

US Patent and Trademark Office Website:

<https://www.uspto.gov/kids/>

<https://www.uspto.gov/kids/parents.html>

(Great resources on the basics of patent and trademark, and allow patent search)

Howtoons:

<https://howtoons.com>

(Offers fun and creative design project ideas with educational kits)

Q & A

Do you use patents to explore knowledge?

Absolutely! Doing a patent search is a great start for invention projects. We would recommend using the [U.S. Patent and Trademark Office website's resource page](#). The USPTO site also has a [“kids” page](#) where you can find activities to help students learn about what a patent is. The website is a great resource for teachers, students, and parents.

In addition to using the USPTO site to search patents, [Free Patents Online](#) can be used, too. Students will be particularly excited to search for patents received by people in the local community, as that they want to know who they are and what they invented.

Should local inventors & businesses be used as resources?

Yes! Local inventors and businesses are great resources for invention ideas and projects. You may start with a patent search to find local inventors, then contact them and express interest in their inventions. Inventors typically are flattered and happy to talk about their inventions and experiences with you and your students. Having these inventors would greatly help mentor and inspire young inventors.

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THANK YOU!

Contact Us at
PD-lemelson@mit.edu

Invention Education
Webinar Series



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