DISCOVER ENGINEERING

Back to School with Discover Engineering!

September 10, 2025

Presenter:

Sarah Moore, B. Ed.
Marketing Manager
Middle & High School Teacher

Who are you?

How do you support students?

What ages of students do you support?

Vision

DiscoverE believes a STEM experience with an engineer or technician, educator, and student can transform the world.

DISCOVER ENGINEERING

Mission

DiscoverE is a coalition providing every student with a STEM experience and the resources, programs, and connections to improve the understanding of engineering.

STRATEGIC FRAMEWORK

Based On

- 30+ Years of Experience and Experimentation
- Research
- Collaborations

DISCOVER ENGINEERING

YOUR KNOWLEDGE.
THEIR FUTURE.

5.5 Million

Students and parents

300,000

Volunteers and Educators

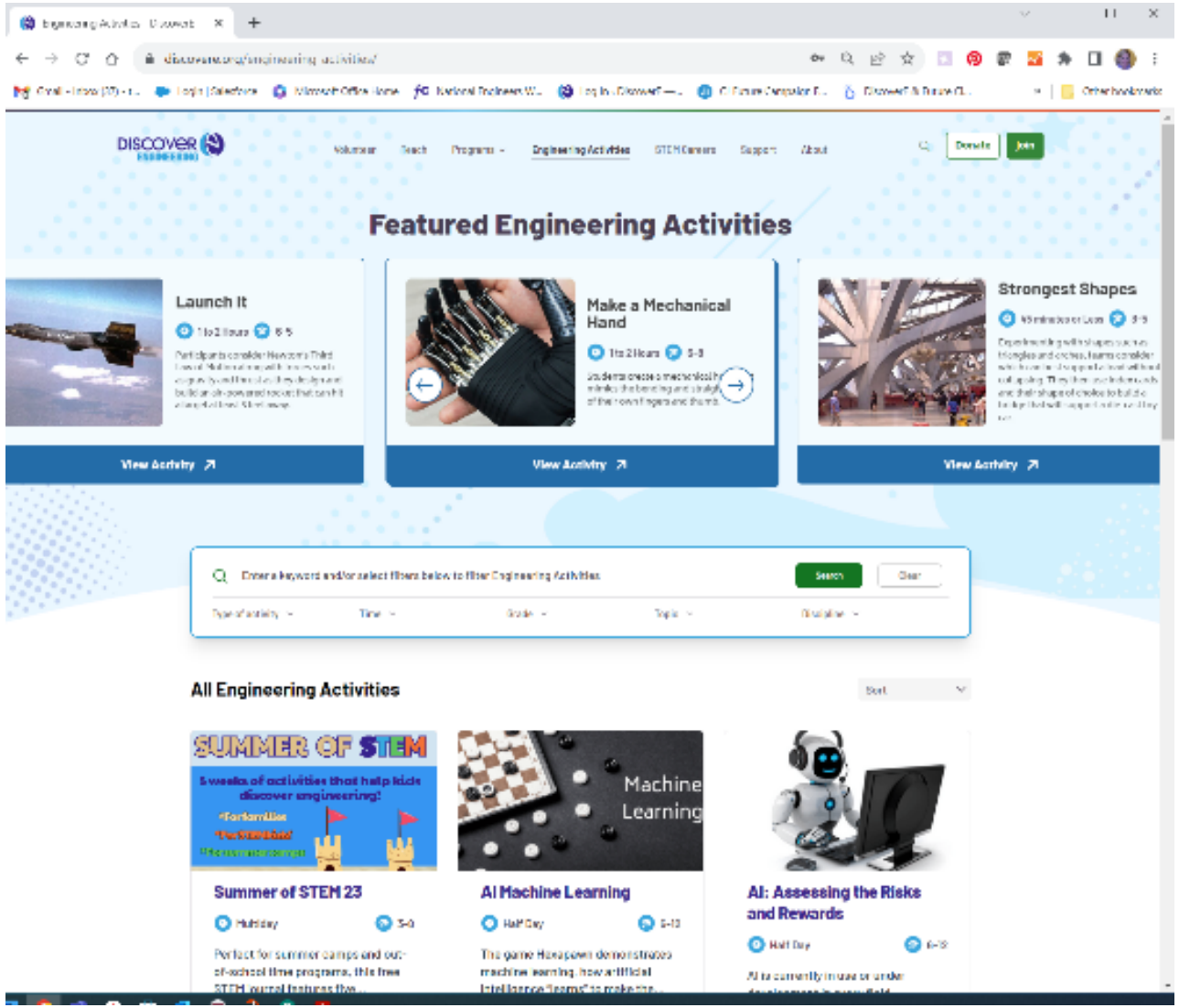
DISCOVER ENGINEERING

DiscoverE's Reach & Impact

- 67% of teachers (public schools) work in **Title One Schools**.
- 43% of teachers have 75% of their students on **Free & Reduced Lunch**.
- 49% of students are White, 22% are Hispanic, 21% are Black/African-American, 15% are Asian American, 2% are American Indian or Native Hawaiian.
- 51% of students identify as girls and 45% as boys.

**Across Engineers Week and Girl Day.*

Hands-on Activities



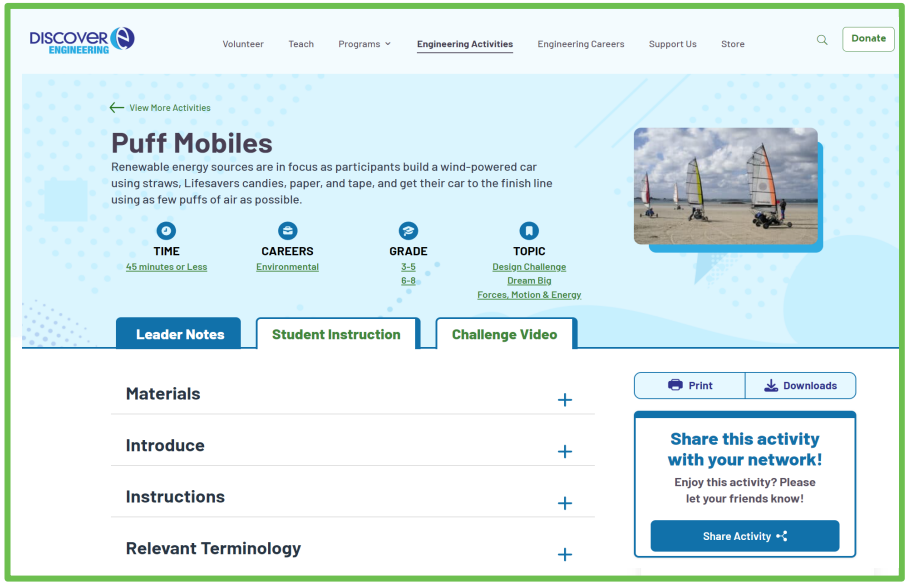
170+ Engineering Activities

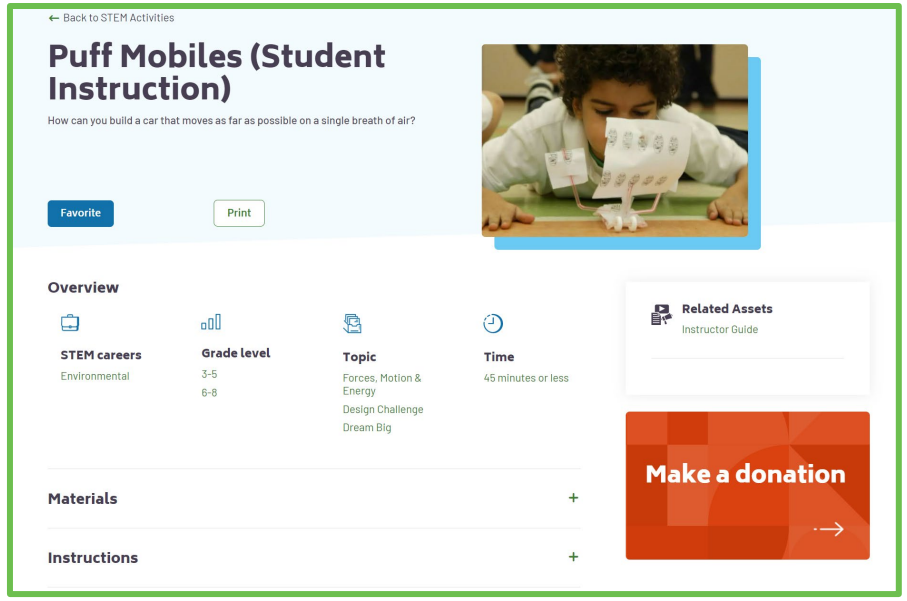
Filter:

- Time
- Grade
- Subject
- Discipline
- Type:
  - Leader Notes
  - Student Instructions
  - Videos

Engineering Design Process

Spotlight: Challenge Videos





DiscoverE.org/Challenge-Videos

Puff Mobiles

High school student hosts 30-minute chats with engineers and technicians

- New season premieres Oct 7 with a brand-new host!
- 45 on-demand episodes
- 93.75% of respondents agree that their students are **more interested in engineering careers** after watching Chats with Change Makers!

All Chats

Sort

Dr. Terry Anderson

Air Date: April 17, 2025

Aerospace

Meet Dr. Terry Anderson, a systems engineer who writes specifications for computers used on aircraft...

View Chat ↗

Zita Holland

Air Date: March 20, 2025

Agriculture & Biosystems

Meet Zita Holland, an agricultural engineer who helps make sure that John Deere tractors follow the rules!

View Chat ↗

Miranda and Star

Air Date: February 20, 2025

Meet Miranda, a high school junior in Austin TX, and Star, an Applied Engineering major at Jacksonville...

View Chat ↗

DiscoverE.org/Chats

Types of Engineering Careers

Aerospace

Agriculture & Biosystems

Biomedical

Chemical

Civil

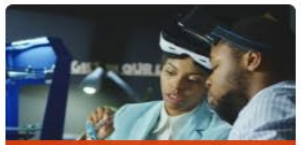
Computer Science

Electrical

Environmental

Industrial

Manufacturing


Materials Science

Mechanical

Mining & Metallurgical

Nuclear

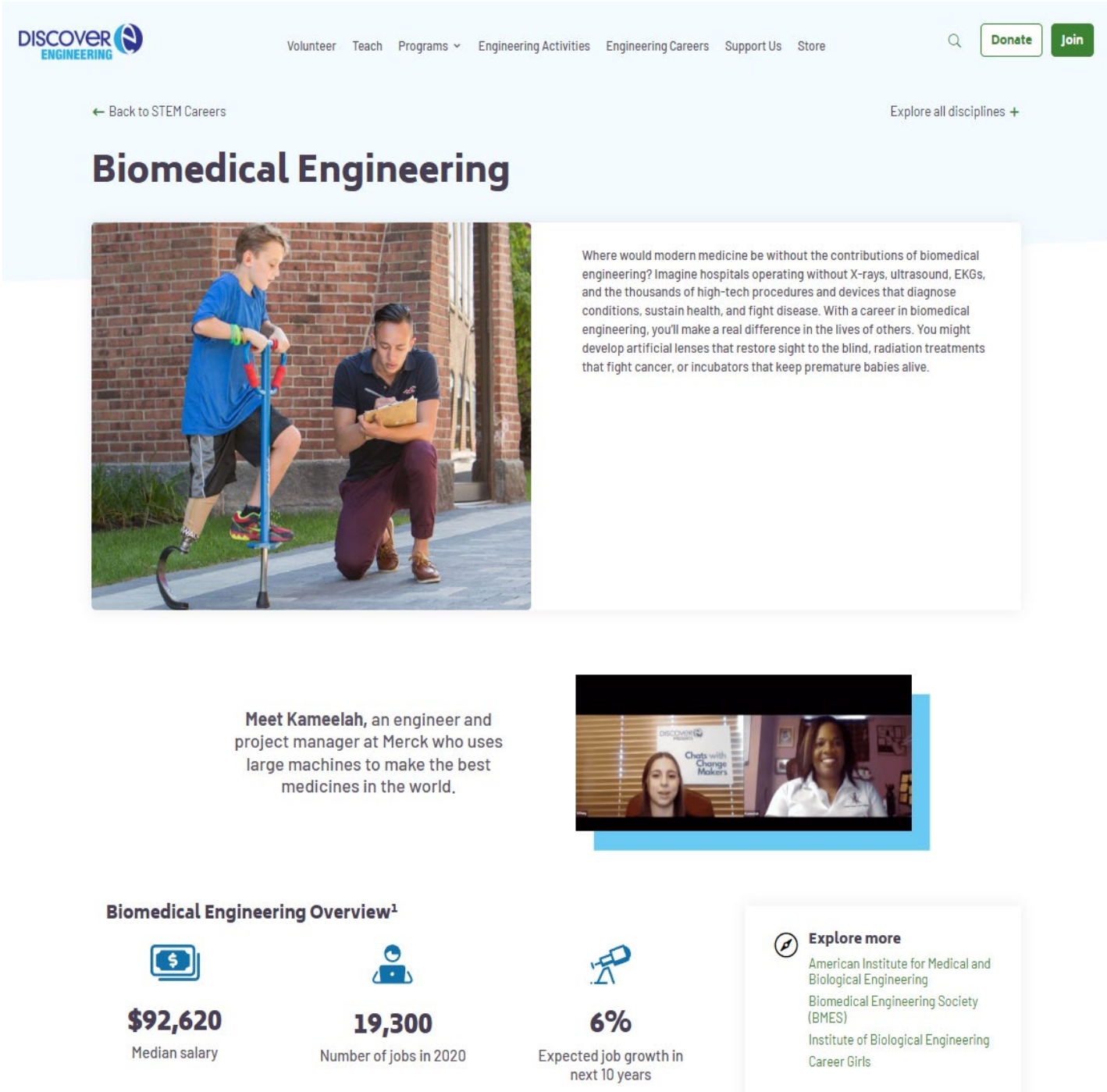
Petroleum

Project Management

DiscoverE.org/Engineering-Careers

Engineering Careers

- Career Overview
- Meet Change Makers
- Salary Info
- Job descriptions for Bachelor's and Associate Degrees
- Related hands-on activities



What is Future City?

Middle and High School students work in teams to create cities that exist 100 years in the future based on an annual sustainability challenge.

25/26 Future City Theme

Design a city that eliminates food waste from **farm to table** and keeps your citizens healthy and safe.

Program Resources

- **Program Handbook**
  - Where to start
  - Rules & Rubrics
  - Engineering Design Process
  - Project Management Planning
  - Instructional Guide
- **Theme Webinar** (September 24)

High School Resources

- Monthly Coaches Calls
- Revit Tutorials
- Career Exploration
- Mentor Panel
  - Our Mentor Panelists are real STEM Professionals providing technical guidance and engineering career insights

Middle School Resources

- Monthly Educator Calls
- New Educator Info Session
- Mentor Support Call
- Regional Coordinators

Future City Middle School

Deliverables & Competition Timeline

Competition Deliverables

Imagine, research, design and build!

City Essay

54 Points

Teams describe the unique attributes of their city and their solution to the annual challenge (1,500-word max.)

View samples »

City Model

65 Points

Teams build a physical model of their city (in one piece or multiple segments) using recycled materials and include one moving part.

View Photo Gallery >>

Presentation / Q&A

72 Points

Teams have seven minutes to present their city's futuristic innovations. Teams then answer questions for a panel of STEM professionals.

Project Plan

10 Points

Teams develop and use a project plan to help them stay organized and focused.

Regional Competitions: January 3 – 24, 2026

Finals Competition: February 14 – 18, 2026 in Washington, D.C.

Future City High School - Deliverables & Competition Timeline

Competition Deliverables

Qualification Round

A virtual round where your essay and model are scored by judges from all over the world!

Finals Round

An in-person round for qualifying finalists held in Washington, DC. where teams present their city and answer questions in front of a panel of STEM professionals.

50 Points

City Essay

Teams describe the unique attributes of their city and their solution to the annual challenge (2,000-word max.)

60 Points

City Model

Teams build a digital model of their city using Revit.

65 Points

Presentation / Q&A

Teams have seven minutes to present their city's futuristic innovations. Teams then answer questions for a panel of STEM professionals.

Virtual Qualification Round: January 7 – 14, 2026

Finals Round: February 14 – 18, 2026 in Washington, D.C. *(Invite Only)*

- Top 20 teams from Virtual Qualification Round

Future City Middle School

Competition Track

- $25.00 per organization*
- Middle School teams have
  - 1 Educator
  - 1 Mentor (*optional*)
  - 3+ students in grades 6-8*
- Competition teams complete 4 deliverables
  - Maximum $100.00 **budget** on model
  - Encouraged to use recycled parts

Resource Only Track

- Free!
- Resources teams can use deliverable criteria/rubrics to round out their curricular goals

Register Now!

Future City High School

Teams have:

- 1 Coach
- 3-5 students in grades 9-12
- 2 Access Tracks

Competition Access

- $375
- Competition teams submit deliverables for feedback
  - Revit (digital city model planner) is *free*!

Program Access

- $300
  - **Upgrade to Competition Access any time for an additional $150*
- Program Access teams can use deliverable criteria/rubrics to round out their curricular goals

Register Now!

Student Learnings

of educators say Future City helped their students learn about the **engineering design process**.

86% of students say Future City helped them appreciate how many different types of engineering go into a city.

93%
of educators
say Future City strengthened their students' **teamwork skills**.

93% of educators say Future City led their students to **learn about STEM concepts** they are not regularly exposed to.

Future City is a program where anyone can feel welcome. Everyone gets a role that suits their skills and interests, while still learning to work as a team.

8th Grade Student, New York Albany Region

I liked the fact that the kids were in charge instead of the adults. We were able to use our imagination and add it to real life situations."

6th Grader, Philadelphia PA Region

It gave me a better sense of teamwork, problem solving, and I made new friends."

7th Grader, Great Plains Region

DISCOVER PRESENTS

Future City COMPETITION MIDDLE SCHOOL

INFORMATION SESSION

September 18th
6 PM ET

Ashley Wirtz

Program Manager

Future City Middle School

Ashley@DiscoverE.org

Register Now!

Refer a Colleague and win a $75 Amazon Gift Card!

FutureCity.org

DISCOVER PRESENTS

FUTURE CITY COMPETITION HIGH SCHOOL

INFORMATION SESSION

Today! 6PM ET

Register Now!

Maddy Faraco

Program Manager
Future City High School

Maddy@DiscoverE.org

HighSchool.FutureCity.org

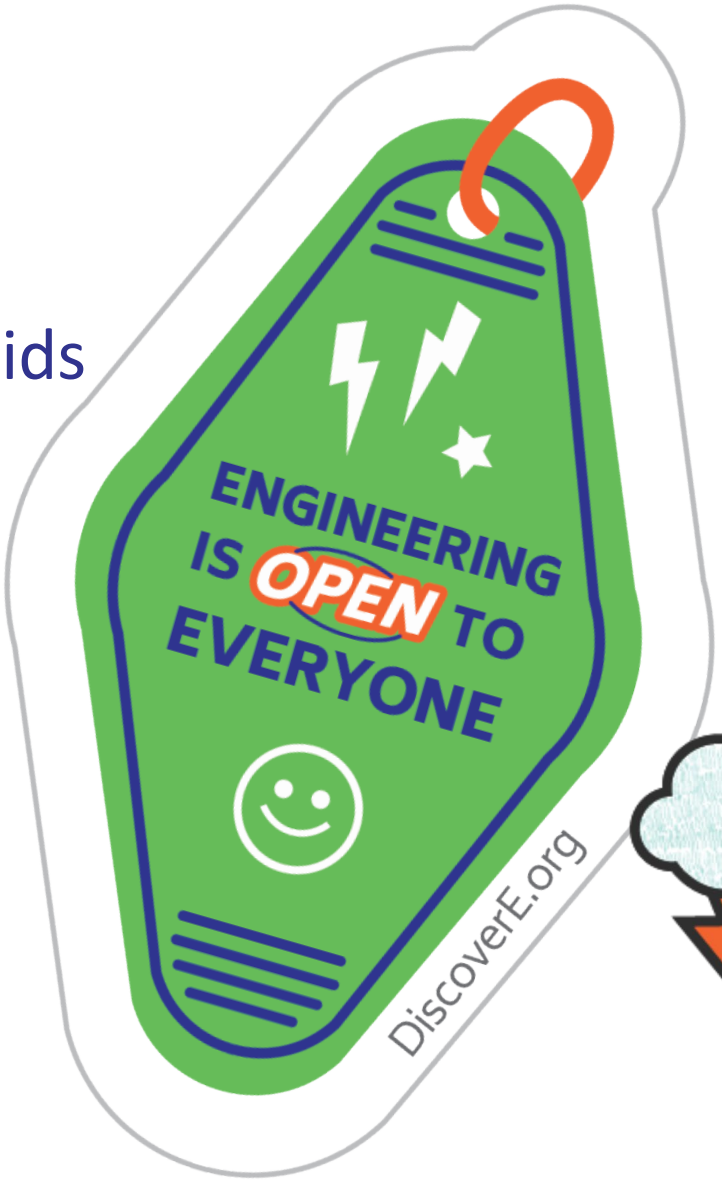
What resources do you need?

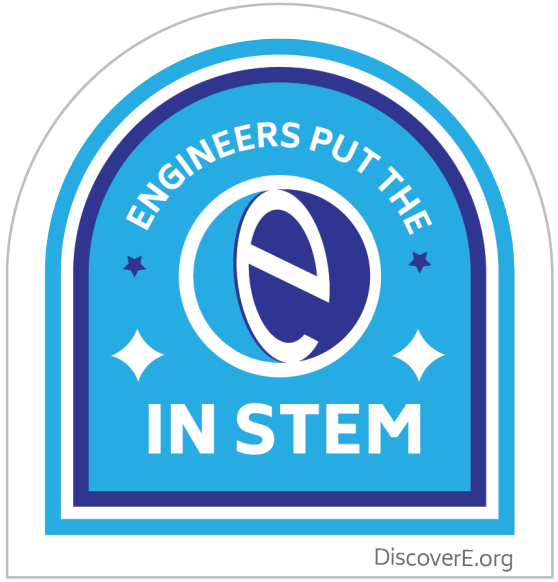
- Hands-on Activities
- Activity Video Demonstrations
- Cross-curricular Programs (Future City)
- Engineering Career Info for Students
- Physical Items (stickers, pencils, bookmarks)
- Professional Development (Webinars)
- Professional Development (Online at your own pace)

Stickers!

store.discovere.org

10% Off Coupon: StickersForKids





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