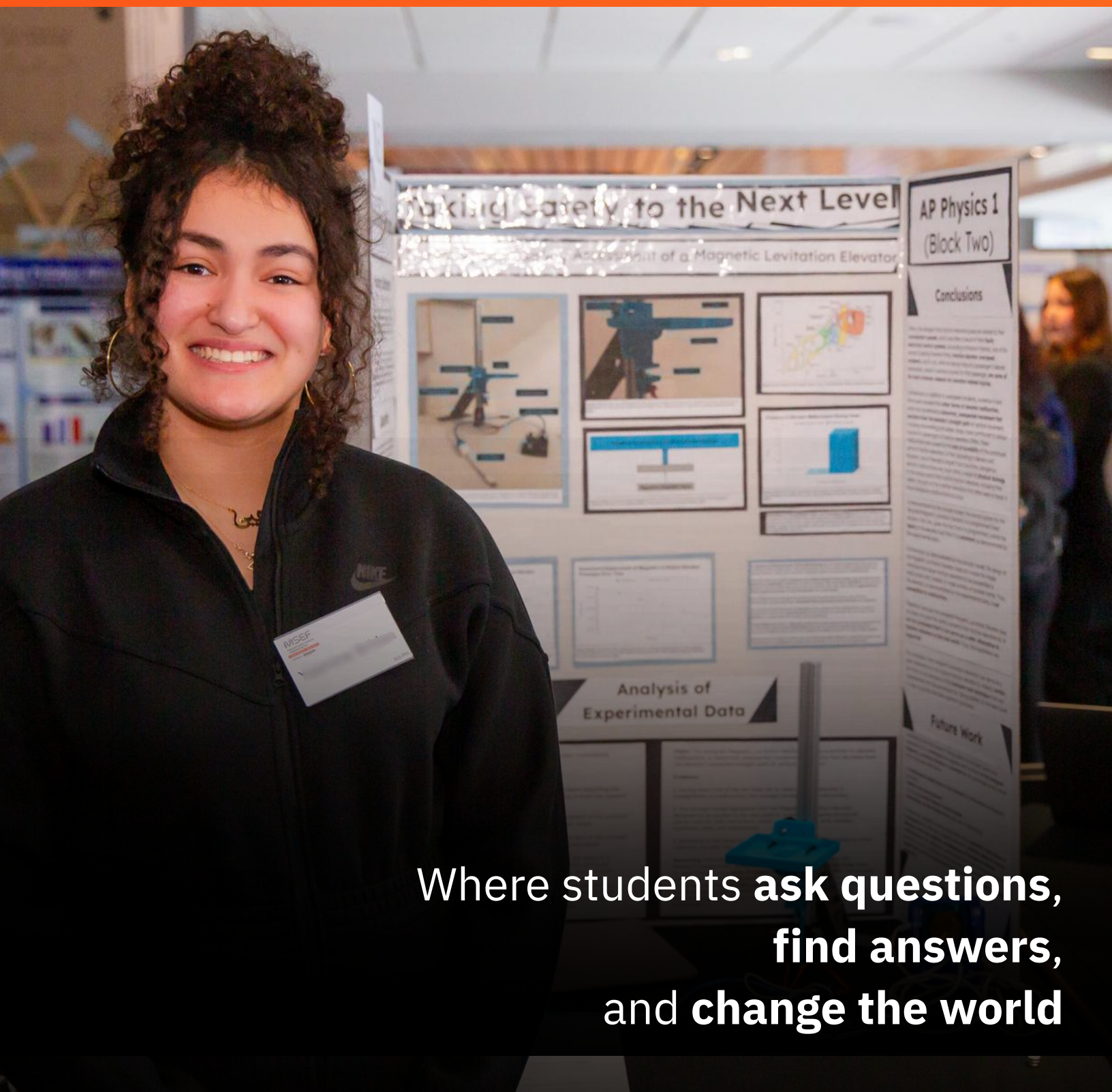




Massachusetts Science  
+ Engineering Fair

# IMPACT REPORT

## 2024-2025



Where students **ask questions,**  
**find answers,**  
and **change the world**

## Letter from our Executive Director

Welcome to our 2025 Impact Report. It's always hard to capture a whole year of breakthroughs, dedication, and support in a few pages — but one thing is clear: **this was a year of remarkable growth and deeper student engagement, helping bridge the gap between classroom learning and real-world opportunity.**

### The Fairs

For over 75 years, MSEF has hosted the Commonwealth's premier pre-collegiate STEM competitions. This year, our State Fairs remained a powerful showcase of talent: students presented research, met both peers and industry professionals from across the state, and built skills that will serve them for life — all while growing belief in their own potential. **But MSEF is more than just the fairs.**

### Access and Opportunity

Over the past year, we reached more students, especially those historically underrepresented in STEM. We stood with dedicated educators and created pathways for students to **experience STEM in ways that felt relevant and real.**

We were thrilled to have students join summer workshops and site visits to leading STEM companies. We reimagined mentorship to meet students where they are — from quick check-ins to deep one-on-one coaching. **And we launched our first Student Symposium, bringing 100 students together for what one participant called “mass mentorship in action.”**

As we grew in depth, we grew in reach too — welcoming new schools and reaching students from 21 of the 26 Gateway Cities. From urban schools to rural districts, students stepped forward with ideas that wowed us! **At every turn, we focused on fostering academic success, as well as a strong sense of belonging and self-efficacy.**

## **Thank You**

To our sponsors, donors, judges, mentors, volunteers, and host institutions — including our newest host partner, Clark University — thank you. We couldn't do this without your time, generosity, and **belief in what young people can achieve.**

## **The Challenge—and the Opportunity**

We know there's more to do. Too many students still face barriers to the kind of STEM learning that builds confidence and opens doors. Science fairs must reflect the full diversity of student talent in Massachusetts, and we're committed to making that a reality. We welcome your ideas, your support, and your partnership as we work for **a future where all students feel not only invited into STEM, but truly welcomed.**

## **Join Us in Shaping What's Next**

As we look to the year ahead, we're excited to build on this momentum — expanding access to hands-on STEM learning, deepening our programs, and staying responsive to what students and educators need most.

Whether you sponsor, donate, mentor, volunteer, or simply cheer our students on, you are part of this story. Thank you for standing with us and showing the next generation what's possible. Together, we can build a future where every student has the chance to thrive through science and engineering!

With gratitude and hope,



**Helen Rosenfeld**  
Executive Director

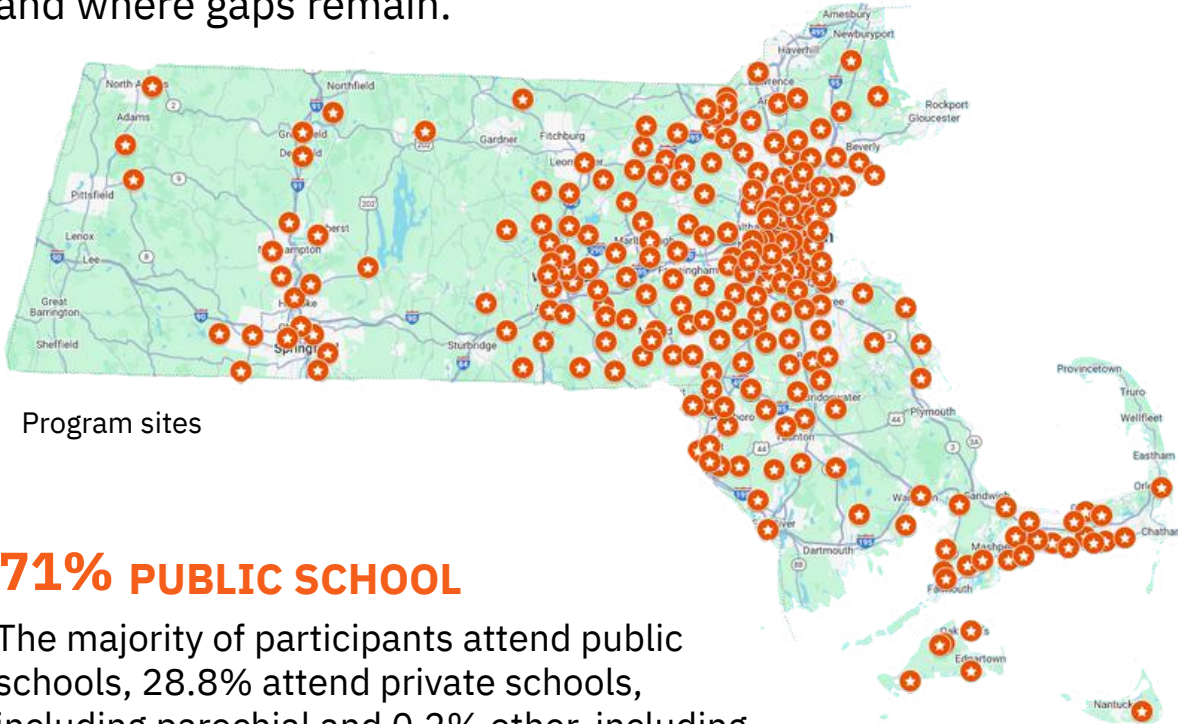




# GETTING SCIENCE FAIR READY - REACH

Expanding the reach of our Getting Science Fair Ready (GSFR) programming means more than just growing numbers—it's about ensuring that students across all corners of Massachusetts have the chance to participate in meaningful STEM experiences.

This past year we continued to track program participation across schools, grades, regions, and student demographics to understand who we're serving and where gaps remain.



Program sites

## 71% PUBLIC SCHOOL

The majority of participants attend public schools, 28.8% attend private schools, including parochial and 0.2% other, including home schools.

## 21 GATEWAY CITIES

Student participants came from **21 of the 26 Gateway Cities**. This year, Westfield, Methuen, and Quincy represented a few of the largest school programs in our network.



“Coming from Martha's Vineyard, our population is relatively low, so I greatly enjoyed being in a place with so many other people that enjoy science and engineering as much as I do.

-High School Participant



**198**

SCHOOLS support student involvement, up **6.7%** year over year



**~250**

TEACHERS supported student learning



**~4,000**

STUDENTS developed projects statewide, up **30%** year over year



Students identified as  
**49%** female;  
**40%** male;  
**0.6%** non binary  
*10.4% chose not to disclose*

## ✨ PROGRAM SPOTLIGHT

### On the Ground and In the Community

This year we were on the ground at events like statewide conferences, regional and school fairs, as well as hosting three regional Summer Teacher Training Days.

Our work with Discovery Polytech Early College High School in Springfield illustrates the layers of investment in schools. MSEF provided teacher coaching, student consultations, project funding, fair planning support, and prizes.

We offered in-depth support for schools in Salem, East Boston, Somerville, and Cheshire, among others.



*\*source of data: registration data on zFairs, self-reported and identified*

# GETTING SCIENCE FAIR READY - ACCESS

Access sparks possibility. This year, it was a defining part of MSEF's story as we worked to eliminate financial, geographic, and resource-based barriers to participation. We provided project materials to in-need schools, ensured no fees for students, and created more ways for students to connect with STEM professionals - through mentorship, coaching, and site visits.

## MENTORSHIP PARTICIPATION TRIPLED THROUGH THESE OPPORTUNITIES:

### For Students

- ✓ Presentation practice sessions
- ✓ One-on-one coaching - short and longer term
- ✓ Industry visits connecting classroom learning to real-world STEM environments
- ✓ Student 'office hours' with MSEF staff
- ✓ Student Symposium (see spotlight)
- ✓ Student summer workshops, topics such as scientific writing, resume building and networking



“Visiting SharkNinja was an amazing experience that left me with so much hope for the future. These opportunities wouldn't be possible without MSEF, and your support means everything as I work toward my goals.

-High School Participant (pictured)



## For Educators

- ✓ Educator workshops on program sustainability and ideation
- ✓ Teacher 'office hours' with MSEF staff
- ✓ Teacher discussion groups across districts
- ✓ Access to classroom and project materials

“ At first, I was hesitant—science fair felt overwhelming. But connecting with MSEF showed me I can access a whole community of support for teachers and students. It transformed how I teach and made the experience deeply meaningful for me and my students.

-Participating Teacher

## ✨ PROGRAM SPOTLIGHT

### Student Symposiums: Expanding Access Beyond the Fair

MSEF hosted two Student Symposiums—**dynamic spaces for connection, discovery, and inspiration**. Open to all science fair participants, these non-competitive events featured early-career speakers, STEM organizations, and student-led activities that deepened engagement and broadened access to real-world STEM pathways. One was **held at MIT**, reflecting our longstanding partnership and deep ties to the innovation hub of Kendall Square. The other, hosted at **Holyoke Community College**, ensured students in Western Massachusetts had access to the same meaningful STEM connections.

#### Impact on participants:

- 100% connected with peers
- 95% discovered new STEM resources
- 98% gained insights from early-career professionals



# GETTING SCIENCE FAIR READY - IMPACT

Across our 2025 High School State Fair cohort **confidence in conducting independent research soared**. Students felt proud of their learning journey, knowing that effort, growth, and curiosity are deeply valued.

**94%**

increased their interest in pursuing a STEM career

**98%**

deepened their understanding of how STEM work is conducted in the real world

**36%**

felt unconfident or neutral at the start of their projects



**96%**

felt confident or very confident afterward



“ *The science fair seemed like a big challenge, but I was willing to take it on because I knew I would learn skills along the way. Now that I'm finished, I feel much more confident in conducting scientific research or engineering project*

*-High School Participant*

“ *Before the science fair I had all these cool ideas floating around in my head... However I never had a reason or purpose to follow through with and research the project. Now I understand how to begin my research and turn that idea into a practical product.*

*-High School Participant*

\*source of data: surveys; program tracking, Hootsuite analytics



## TEACHER ENGAGEMENT MAXIMIZES IMPACT

We continued to invest in educators - providing professional development, practical teaching tools, and year-round support to strengthen **teacher confidence and capacity to support programming**. Well equipped and enthusiastic teachers help sustain robust student participation. Educator feedback showed just how powerful that ripple effect can be:

“ *I feel really good about how I've developed my program to align with MSEF this year - I want to reach out to other students in the school now.*

“ *Integrating an MSEF-affiliated research program into a school is one of the best ways for students to develop student-led, authentic science and engineering skills.*



## ✨ PROGRAM SPOTLIGHT

### ‘This is Science Fair’ Thursdays

For over a year, MSEF has run a weekly social media campaign celebrating the students, teachers, volunteers, and alumni who make science fair so powerful. By spotlighting their stories, **we elevate voices that are often overlooked and allow more students to be seen and to see themselves in STEM.**

The campaign has grown into a storytelling movement. With every post and every view, we’re expanding access, recognition, and belonging in STEM—one story at a time.

#### This is Science Fair.

Meet Marina.

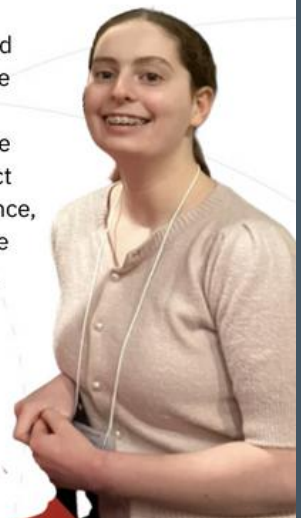
An 8th grader from Pollard Middle School, Marina has always dreamed of participating in Science Fair. After a stroke in 2020 left her unable to speak for over a year, that dream felt uncertain—but this year, she made it happen.

Her project, “The Organized Brain,” explored how people with expressive aphasia retrieve words—investigating whether using an organizational mind map could help improve word recall. Her research doesn’t just reflect scientific curiosity—it reflects lived experience, deep empathy, and a determination to make communication more accessible for others.

**How will Science Fair help you turn your questions into discoveries that matter?**

**MSEF**

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# STATE FAIRS

**618 students participated in the State Fairs** - a new high.

A growing number of students followed the path from school fairs to Regionals and on to the State Fair. Reaching the State Fair is a major milestone—one that celebrates student achievement and highlights the power of recognition.

The Middle School State Fair moved to Clark University, giving younger students the chance to present on a college campus and feel a sense of belonging in that environment.



Award recognition increased by **48%**

Awarded **\$58,000** cash prizes

Awarded **\$399,865** in scholarships

“ This has been a great, if not the greatest, experience ever. I have met incredible people and judges, and throughout the science fair, I have gained invaluable support, knowledge, and inspiration.

-High School Participant

“ My discussions with the judges were extremely helpful as part of my learning process. They provided valuable feedback that helped me think more critically about my project. [They] made me look at my data from different perspectives and think about how I could refine my methodology.

-High School Participant



## FROM MASSACHUSETTS TO THE WORLD STAGE

Massachusetts students won big at the International Science & Engineering Fair, with a student bringing home the **Regeneron Young Scientist Award**, one of the competition's top prizes!



MSEF stewarded 15 students to Columbus, OH to compete, **covering 100% of the costs** (flights, hotels, meals, fees), eliminating financial barriers and making this **life-changing opportunity accessible**.



Massachusetts students won **10** International awards!

“

*ISEF was truly a life-changing and memorable experience and I am forever thankful that I was able to attend.*

*-ISEF Participant*

## ✨ PROGRAM SPOTLIGHT

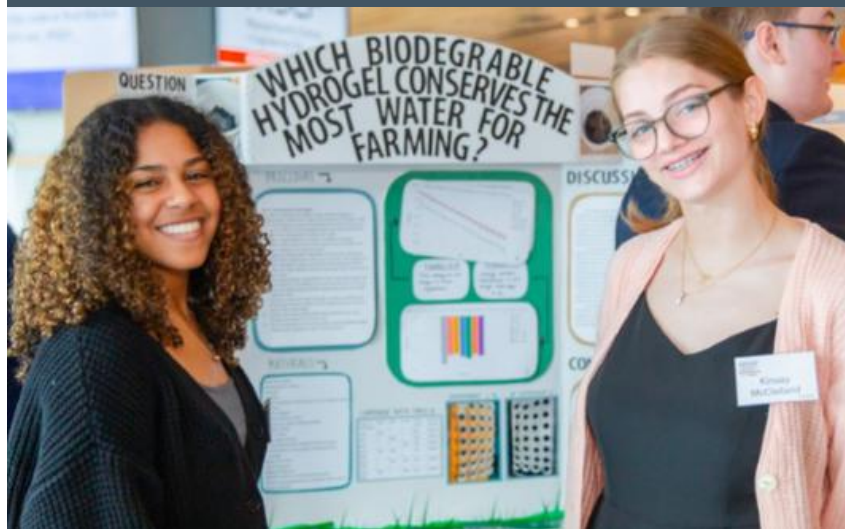
### Teacher Nominated Awards

This year, **MSEF expanded how we recognize achievement by inviting teachers to nominate students whose projects stood out in powerful, personal ways.**

These new awards honor the full story behind the science—recognizing students for one or more of the following:

- GRIT (Guts, Resilience, Initiative, Tenacity)
- Embodying the spirit of science fair
- Advancing UN Sustainable Development Goals
- Inventiveness and creativity
- Community impact and relevance

This allows more students and teachers see themselves in STEM and in the future they're helping shape.





# CONNECTION WITH STEM PROFESSIONALS: VOLUNTEERS

Volunteers continued to be the backbone of MSEF—**bringing expertise, encouragement**, and a human connection to every step of the student journey. In addition to fair judges, MSEF recruited and trained individuals to be mentors and coaches, Scientific Review Committee members, Judge Advisory Committee members and day of fair volunteers.

## The Power of ‘Student-Centered’ Judging

Middle and high school students benefited from sharing their work and having real conversations with engineers, researchers, doctors, entrepreneurs, and industry experts.

### Why It Matters:

For students, judging means:



**Being Seen:** Their ideas are taken seriously by adults working in STEM.



**Building Confidence:** Practice explaining complex ideas clearly and answering questions on the spot.



**Improving Communication:** They gain feedback on presenting technical information simply.



**Growing Networks:** Some make connections for future opportunities.



**Valuable Feedback:** Receiving constructive advice to improve projects and inspire next steps.

**434**

Number of volunteer fair judges, 12% increase year over year.

**98%**

Judges who would recommend judging to a colleague.

**97%**

Found the experience of judging ‘gratifying’ or ‘very gratifying’.

“ *It is an amazing experience to hear how students today are using the technology available to them to solve real world problems.*

*-Fair Judge*

“ *The judges asked me insightful questions about my project which helped me dive deeper.*

*-Middle School Participant*

### Scientific Review Committee

**30** STEM professionals and educators volunteered to review student research plans, ensuring safety and scientific integrity while encouraging strong writing and critical thinking.

They reviewed and approved over **1,500** student projects.

## ✨ PROGRAM SPOTLIGHT

### Judge Rubric and Training Refresh

The Middle School judge rubric was updated and training provided to ensure feedback was supportive, bias-aware, and focused on what really matters - student understanding, creativity, and independent work.

More than assessing student projects, judges focus on **feedback and encouragement with a focus on process instead of product** as well as recognition for **deep thinking and hard work**.

Massachusetts is leading the way among Science Fair programs in focusing on equity and student-centered experiences in the judging process.



# LET'S CONNECT!

Help us increase our impact.

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Checkout the 2025 High  
School Abstracts!  
Student projects stand out  
for the range of topics they  
explore and the skills they  
demonstrate.



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