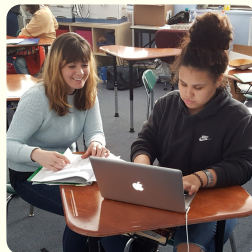
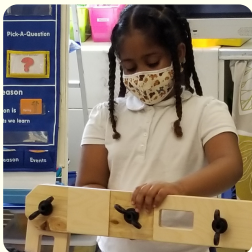
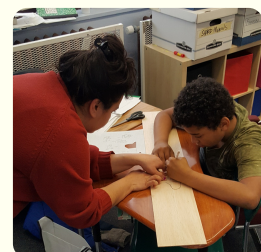
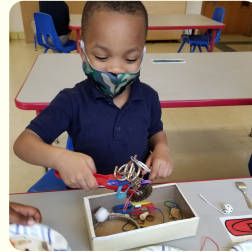
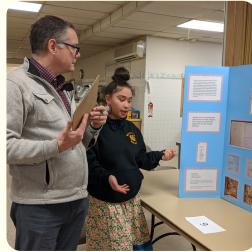


FORSE'S IMPACT

2017-2022: Our First Five Years



What is FORSE?

FORSE (Fostering Opportunities and Relationships in STEM Education) is a program of the Minnesota Academy of Science that seeks to address persistent opportunity gaps in science, technology, engineering and math (STEM) education in Minnesota, diversify our programs, and open doors to STEM majors and careers for Minnesota students of all backgrounds.

FORSE is a program of the Minnesota Academy of Science (MAS).



IMPACT SNAPSHOT

5,000+

students served

30+

educational partner sites

100%

satisfaction rate
among partners

OVERVIEW OF FORSE

FORSE began as a focused effort to dismantle barriers to participation in our state's science fairs. In its first three years, FORSE brought students and scientists together for STEM enrichment activities at the elementary level and science project mentoring at the middle school level. In its fourth and fifth years, FORSE responded to educational challenges presented by the pandemic by shifting into a program tailored to the specific needs of our partners, including virtual STEM lessons, volunteers, and hands-on activities.

YEAR ONE: 2017-2018

The pilot begins with science project mentoring

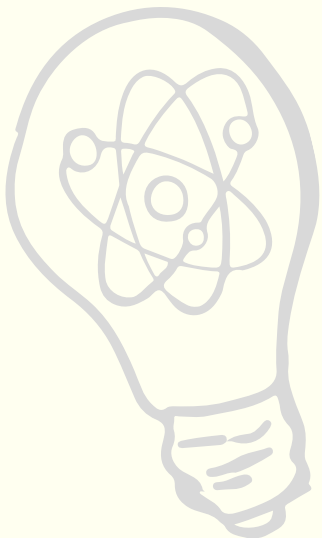
FORSE began as a pilot program in 2017-18 at [Bdote Learning Center](#), a Title I public charter school and cultural revitalization language immersion school in the Longfellow neighborhood of Minneapolis. In the first year, we served 20 students, primarily through recruiting and training mentors who worked side-by-side with students as they completed a science fair project.

90%

of students surveyed said they liked having a mentor

74%

of students surveyed said that they learned more about science through FORSE

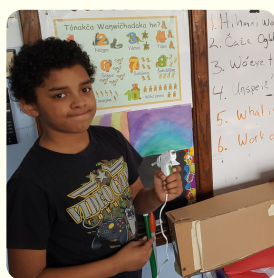
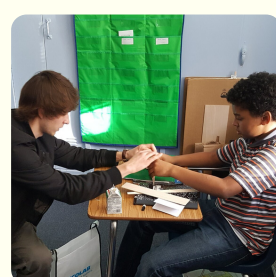


YEAR TWO: 2018-2019

The pilot continues and incorporates enrichment

As we continued to develop our relationship with students and educators at Bdote Learning Center, we recruited and trained mentors who worked with Bdote middle school students to develop all aspects of a science fair project. We created a Student Science Journal to guide and document students' progress through their projects. Mentoring sessions were conducted two times a week for nine weeks. We worked with two classrooms of middle school students totaling 24 students for these mentorship opportunities. Projects were showcased in a Bdote Science Fair at the end of the program.

MAS also coordinated STEM enrichment units where volunteers introduced Bdote elementary students to concepts centering on the scientific method. We developed a manual for volunteers to help them approach their lessons, and worked closely with them to develop curriculum on microbes and native plants. We worked with two classrooms of fourth and fifth grade students totaling 28 students for these enrichment opportunities.



“ Some students have taken to research a lot better because they did it with science fair last year. Just the word research is no longer scary to them. – Bdote Educator

“ Students are excited to see and work with the mentors. They seem to really enjoy the one on one time with a new person. – Bdote Educator

100%

of students said that they were proud of themselves after science fair

80%

of students said that developing a Science Fair project allowed them to learn more about research

87%

of students said that they learned something new through the STEM enrichment units

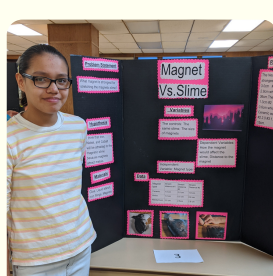
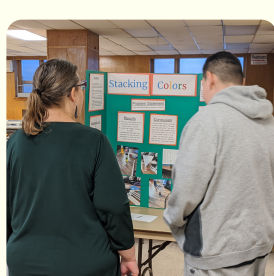
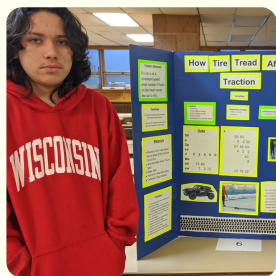
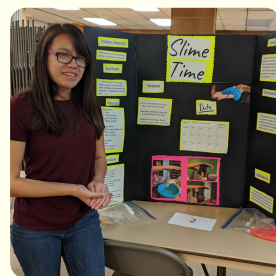
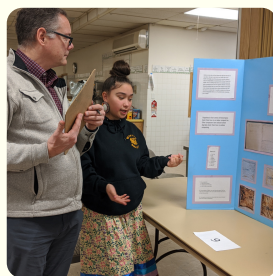
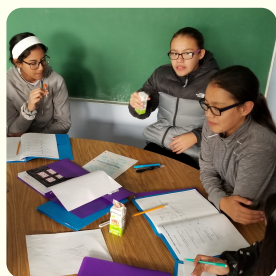
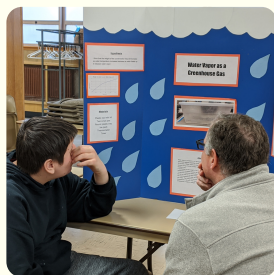
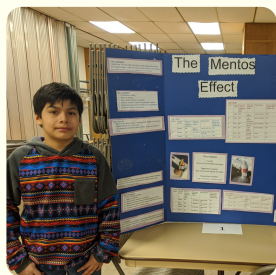
YEAR THREE: 2019-2020



The program expands to a new partner

With generous support from 3M, we were able to expand FORSE from one to two partner schools, with the addition of Stonebridge World School. At Stonebridge, we brought STEM enrichment activities to their youngest learners in kindergarten and first grade. Our total impact grew to 126 students.

At Bdote, we continued our STEM enrichment for elementary students and science fair mentoring for middle school students. The program at Bdote culminated in February when FORSE students wowed their peers and teachers with the science projects they developed. Maddie won first place for her project about composing natural fabrics. Ayasha's second place project focused on Inko dye performance on different fabrics. Doug and Destino's third place project compared reactions of different mints in carbonated beverages.



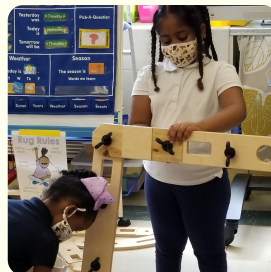
YEAR FOUR: 2020-2021



The program grows and responds to pandemic challenges

With the support of Howmet Aerospace and the Baker Family Foundation, we were able to expand FORSE from two partners served to six: [Bdote Learning Center](#), [Stonebridge World School](#), [Highwood Hills Elementary](#), [Little Women of Color](#), [Friends of the Mississippi River Environmental Stewardship Institute](#), and [Relentless Academy](#). In its fourth year, our impact grew to more than 300 students and students were served year-round. In addition to partnerships with schools that serve students from populations historically underrepresented in STEM, we also began to form partnerships with STEM organizations that helped us meet the specific needs of our educational partners.

This year was especially challenging for schools due to distance learning. In response, we expanded FORSE into the summer months, providing STEM curriculum and materials for students at the Relentless Academy summer program in Brooklyn Center. We also recruited mentors and provided supplies for the after school coding club at Highwood Hills Elementary in St. Paul, partnered with Stonebridge World School in Minneapolis for STEM Play Days filled with exploring and building, and developed “STEM in 10” career pathway videos.

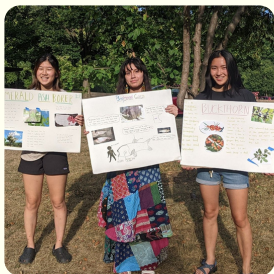


YEAR FIVE: 2021-2022

We “go big” – and go even bigger!

In 2021-22, 3M challenged us to go big with FORSE. So we set the goal of expanding to 20 partners and reaching at least 800 students. We also wanted to build partnerships with other STEM organizations who could help us serve our partner sites. The year started on an exciting note when we were selected by MyTalk 107.1 to be one of four charities supported during their Project Down & Dirty campaign. During the campaign “Team Colleen and Bradley” raised more than \$20,000 – and we got to share the importance and impact of FORSE (listen here!).

With the support of 3M, MyTalk 107.1, Howmet Aerospace, and all our FORSE sponsors and individual donors, we exceeded our goal! By the end of the school year, we reached 1,500 students – and thanks in large part to a new partnership with the St. Paul Public Schools – we served another 1,500 students over the summer, making our impact 10 times what it was the year before! FORSE brought 10,000+ free STEM learning experiences to nearly 3,000 young people at 22 schools and enrichment programs in cooperation with 12 educational partners and five community partners!



“ We could not have been as successful as we were with the intention of this camp without MAS. What they provided for us was integral to the kids walking away with an experience that educated them and built their confidence in STEM subjects.
– Nicoshia Winn, Relentless Academy

“ It was so great to see all the smiling faces. I can tell they’re all having so much fun! – Teacher, Highwood Hills Elementary

100% of educational site coordinators said FORSE increased their students' confidence in STEM subjects

100% of educational site coordinators said FORSE increased their students' knowledge of STEM pathways

2021 - 22 FORSE Educational Partners: Ampersand Families, Create MPLS, Environmental Stewardship Institute, a program of the Friends of The Mississippi River, Gateway STEM Academy, Highwood Hills Elementary, Little Women of Color, LoveWorks Academy, Powderhorn Park, Relentless Academy, Saint Paul Public Schools, and Stonebridge World School. **2021 - 22 FORSE Community Partners:** Kitty Andersen Youth Science Center of the Science Museum of Minnesota, Bell Museum STEM Nights Program, MN Ag in the Classroom, Now Make Art, and U MN College of Biological Sciences Market Science. **2021 - 22 FORSE Sponsors:** 3M (Premier Sponsor), Howmet Aerospace Foundation, MyTalk 107.1 Project Down & Dirty (including matching grants from Hero Home Services, Chanhassen Dinner Theatre, and First Equity Mortgage), Michael H. Baker Family Foundation, Verizon Foundation, Illume/Good Chemistry, and Raytheon/Collins Aerospace. In addition, these MAS sponsors supported FORSE through their contributions to our general operating funds: MN Department of Education, Ecolab, General Mills, Hardenbergh Foundation, CVS Health, and Emerson Women’s Impact Network.

WE COULDN'T HAVE DONE IT WITHOUT YOUR GENEROUS SUPPORT



THANK YOU TO ALL OUR DONORS AND VOLUNTEERS



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