Students inspired through Teamwork and Engagement, Applying knowledge and skills

North Carolina School of Science and Mathematics

Academics
- Trimesters
  - Rigorous course work
  - Only 11th & 12th graders
  - 99% attend college after graduation

Outreach
- Community Service
  - More than 2,000 hours per year

UNIQUE
- Research & Mentorship
  - Distance Education Courses
  - Teachers - Math/Science Ph.D. students
  - Students: 1,000+ students

Interdisciplinary Real WORLD connections

YORK CITY SCHOOLS FOR SCIENCE AND TECHNOLOGY

Christia McMahon School (P-8th)
- Extended school day for diverse learners
- Focus on arts
- Parent resource center
- 84% free and reduced lunch

Denver Schools for Science and Technology
- Summer school mandatory if not at grade level for grades 6-9
- Focus on lab sciences and technology
- Seems to be a charter school
- Do not have info on demographics
QRSD Outcome #3
Community Engagement/Outreach (CSL projects)

H.S.
- Parenting Club
- Prof. Tutor: 1-on-1 student
- Friday After-School: Fencing, STEM

Middle
- After School Afterschool-Assisted Learning
- Prof. Tutor: Green in the Community
- Prof. Tutor: Service Learning

Elementary
- Service Learning (4-6)
- PC Club
- Service Learning
- School Garden
- SCITTS
- STEM and Robotics
- Makerspace
- Money for Proms
- Water! Water, Where Does It Go?

QRSD Outcome #1
ENROLLMENT
(Retain QSD students) Recruit School Choice

H.S.
- Bridge Program
- Next Steps: Outreach

Middle
- Use of Technology
- After School MUSIC programs

Elementary
- STEM Club
- Library
STEM Integration for District Leaders

Program’s goal:
To support district leaders as they develop a comprehensive, district-wide plan for STEM integration.

District leaders will:
- Review different models of STEM integration
- Set up STEM goals for their students
- List current programs that support the defined goals and identify needed activities
- Review integrated STEM curricula and technological tools
- Identify required resources to support the activities
The Program: Timeline

- **August**: Summer Opening Institute
- **September**: Online Session
- **October**: Individual Team Meeting
- **November**: Individual Team Meeting
- **December**: Individual Team Meeting
- **January**: All Day, All Group Session
- **February**: All Day, All Group Session
- **March**: All Day, All Group Session
- **April**: Teams’ Final Presentation + New Cohort Introduction
- **June**: Winter Institute
The Program: Logic Model

<table>
<thead>
<tr>
<th>RESOURCES</th>
<th>ACTIVITIES</th>
<th>EXPECTED OUTCOMES</th>
</tr>
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<tbody>
<tr>
<td>Needed</td>
<td>Needed</td>
<td>Elementary</td>
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<tr>
<td>Current</td>
<td>Current</td>
<td>Middle</td>
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<tr>
<td></td>
<td></td>
<td>High</td>
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Participating districts

Evaluation Methods
Middle School Innovation Vision

• To **inspire** students to consider STEM careers and apply to the High School Bridges program.

• To **engage** students in STEM by providing hands-on, project based learning opportunities both in the **classroom** and **after school**.

• To **gain competencies in important skills** that will be critical to success in high school/careers such as teamwork, problem solving, and communication skills.

• To **provide access** to and experience with **cutting-edge technology**.
Elementary School STEAM Vision

Students inspired through

Teamwork and

Engagement,

Applying knowledge and skills to

Make a difference
# Expected Outcomes

<table>
<thead>
<tr>
<th>Elementary</th>
<th>Middle -High</th>
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<tbody>
<tr>
<td><strong>Enrollment</strong></td>
<td><strong>Enrollment</strong></td>
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<tr>
<td>(1) Retain students in elementary schools, ensure transition to Middle-High school</td>
<td>(1) Retain (%) of students in QRSD</td>
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<tr>
<td>(2) Recruit students to elementary schools</td>
<td>(2) Recruit (#) students to QRSD through school choice</td>
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<td>(3) STEM programs/ECHS</td>
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<tr>
<td><strong>Transition</strong></td>
<td><strong>Post-Graduation</strong></td>
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<tr>
<td>(1) Increase STEM literacy skills</td>
<td>(1) Increase graduation rate by (%)</td>
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<td>(2) Proficiency in 21st century learning expectations (develop rubric)</td>
<td>(2) Increase college-bound students by (#)</td>
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<td>(3) Increase (#) of college STEM majors applicants</td>
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<td>(4) Proficiency in 21st century learning expectations</td>
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<tr>
<td><strong>Community</strong></td>
<td><strong>Community</strong></td>
</tr>
<tr>
<td>Increase number of STEM community service learning projects to (#) per year</td>
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<tr>
<td><strong>Assessment</strong></td>
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<tr>
<td>(1) Increase MCAS scores by (%)</td>
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<tr>
<td>(2) Decrease achievement gaps of low income students by (%)</td>
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<td>(3) Decrease achievement gaps of special education students by (%)</td>
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<tr>
<td>(4) Increase math benchmark scores by (%)</td>
<td>(4) Increase qualifying scores on STEM AP courses by (%)</td>
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