Planning for STEM Excellence

The Carnegie STEM Excellence Pathway initiative is built on the belief that school systems, individual schools, departments, or individual teachers can improve their STEM education practices through a positive, collaborative approach.

Designed to help the widest possible range of school districts and schools adopt best practices in STEM education, the Pathway includes:

– a tool and process for assessing current STEM programming and creating a practical plan for improvement

– a guide to specific steps a school or district can take to improve STEM education

– supports for teacher professional development and district-to-district mentoring

– recognition for schools that are embracing and moving toward effective STEM education

CARNEGIE STEM Excellence PATHWAY SM

CARNEGIE SCIENCE CENTER

One facet of the Carnegie STEM Excellence Pathway is a self-assessment instrument, through which participating schools and school districts first evaluate themselves in six areas:

- Teacher Qualifications
- Curriculum
- Instructional Practices
- Assessment and Demonstration of Skills
- Family Engagement
- Real-World Connections

Within each area are specific criteria and descriptions of levels of performance. After assessing themselves on each of these, a school or school district selects up to three areas to prioritize and then formulates a timeline and an action plan to address those goals. After that, the cycle continues with a new self-assessment and new plans.

Through periodic reassessment and repetition of this process, schools and districts can progress to higher levels of STEM education excellence. This cycle is beneficial to all regardless of their current STEM offerings. The Pathway fosters thinking about long-term, strategic goals with a focus on continuous growth. It helps identify the tenets of quality STEM education and then implement them. The Pathway is non-punitive. Instead, it's envisioned as a long-term, goal-oriented, encouraging approach.

The self-assessment rubric is available through **STEMisphere.org**. Created by Carnegie Science Center as a community service, STEMisphere is the online hub for educational STEM resources for students in Pre-K through 12th grade in western Pennsylvania. It acts as a portal for parents, educators, students, and potential partners to explore a universe of STEM opportunities. Its long-range mission is to provide access to exceptional STEM education resources by collaborating with community stakeholders, providing resources to educators, and inspiring excitement among students through an enduring commitment from business leaders, government officials, educators, parents, and other stakeholders. Carnegie Science Center manages the website in partnership with other key regional and statewide STEM initiatives.
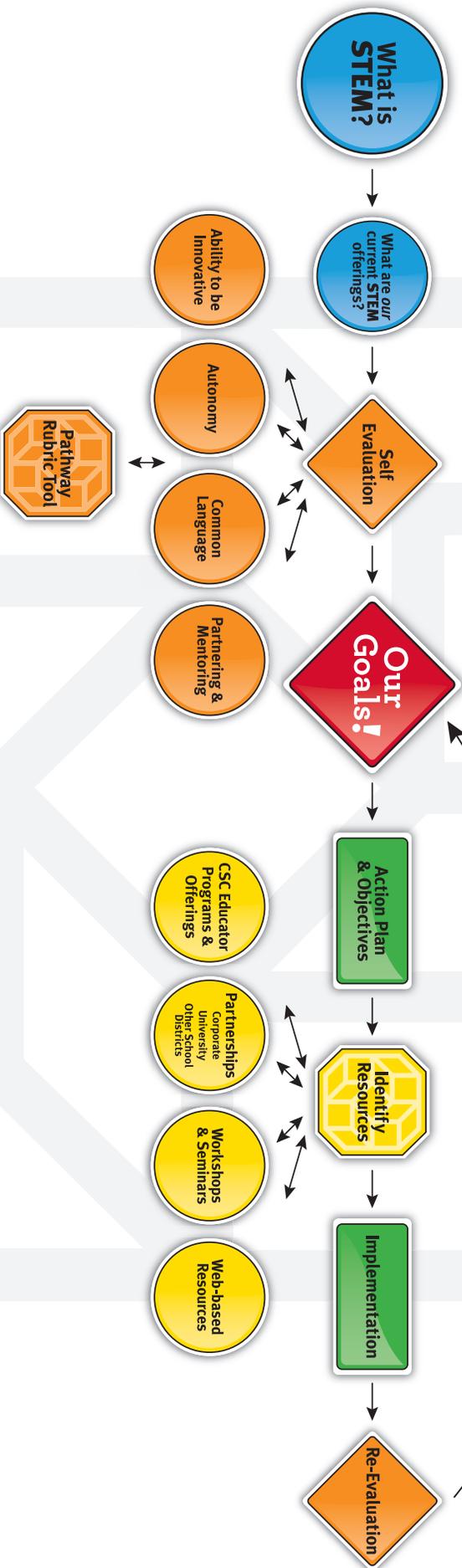
The Carnegie STEM Excellence Pathway is made possible through the generous support of The Heinz Endowments.

CARNEGIE STEM EXCELLENCE PATHWAY

What is STEM?

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What are our current STEM offerings?

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Self Evaluation

- Ability to be Innovative
- Autonomy
- Common Language
- Partnering & Mentoring

Pathway Rubric Tool

↓

Our Goals!

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Action Plan & Objectives

↓

Identify Resources

- CSC Educator Programs & Offerings
- Partnerships — Corporate, University, Other School Districts
- Workshops & Seminars
- Web-based Resources

↓

Implementation

↓

Re-Evaluation

Carnegie STEM Excellence Pathway Rubric
Updated April, 2016

INTRODUCTION

The Carnegie STEM Excellence Pathway is built on the belief that school systems, individual schools, departments, and individual teachers can improve their STEM education practices through a positive, collaborative approach.

Designed to help the widest possible range of school districts and schools adopt best practices in STEM education, the Pathway includes:
– A process and tools for assessing current STEM programming and creating a practical plan for improvement
– A guide to develop specific steps that a school or district can take to improve STEM education
– Supports for teacher professional development and district-to-district mentoring
– Recognition for schools that are embracing and moving toward effective STEM education

The Carnegie STEM Excellence Pathway provides a Self-Evaluation Rubric that enables participating schools and districts to rate themselves in six STEM learning components:
1. Teacher Qualifications and Development
2. Curriculum
3. Instructional Practices
4. Assessment and Demonstration of Skills
5. Family Engagement
6. Real-World Connections

Within each component, there are Priority Areas with specific criteria and descriptions for levels of performance. After rating themselves on each of these, the school or district selects up to three Priority Areas and then formulates a realistic Action Plan in those areas.

Through periodic re-evaluation and repetition of this process, schools and districts can progress to higher levels of STEM education excellence.

For more information about the Carnegie STEM Excellence Pathway, please contact:
Alana Kulesa, Director of Strategic Education Initiatives
KulesaA@CarnegieScienceCenter.org or (412) 237-1679

Please proceed through each of the pages in your printout.

Special Thanks

**Carnegie Science Center appreciates the generosity
of The Heinz Endowments for their support
of the Carnegie STEM Excellence Pathway.**

INSTRUCTIONS FOR COMPLETING
THE STEM EXCELLENCE PATHWAY RUBRIC

This rubric is a Self-Evaluation that will help schools and school districts identify their strengths and challenges in STEM education and set goals for advancing STEM education. The following steps are recommended:

1. Choose a Carnegie STEM Excellence Pathway Leadership Team from across your school district or school, including a diverse group of good critical thinkers who are passionate about STEM education. The Carnegie STEM Excellence Pathway is a process, and as such, it is expected that the Leadership Team be committed to convening on an ongoing basis beyond the initial Self-Evaluation.

2. Choose a designated leader for the team who will compile the input of all parties and guide discussions.

3. Start with a discussion about what STEM education means in your system, from preschool through high school, from vocational classes to extracurricular activities. Based on discussion and specific examples of how STEM education is implemented across different levels, settings, and sites, have the team rate the school's or district's CURRENT overall status in each of the Priority Areas.
For each Priority Area, please rate your current level of performance based on the descriptions provided by marking the appropriate cell. It is likely that for some areas, there may not be a precise match to an exact description. In those circumstances, identify the closest level. Try not to overestimate in order to identify areas for improvement. There may be variations in how you would rate different parts of your system. Note those variations in the designated spaces, as they are likely to be important as you plan for improvement. Also, make notes on the evidence that helped you choose each level. There is room for these notes on individual items that will help you in creating a plan.

4. Next, identify up to three top Prioritiy Areas for improvement over the next school year. Complete the sections to document the obstacles/challenges in each Priority Area and the resources available to support program gains.

5. Choose a time frame for goal setting. For example, is the team setting goals for a 1-year plan or a 3-year plan?

6. Considering current and potential resources, and the chosen time frame, review each Priority Area again and select the target level of performance you plan to reach.

7. Use the completed ratings of Current and Target levels to help map out your Action Plan by prioritizing those areas for which resources are currently available or can be secured, and that will provide the greatest benefit to your STEM program and your students. Create the S.M.A.R.T. goals section to implement your Action Plan.

PLANNING PARTICIPANTS

School/District	
Street Address	
City	
County	
State	
ZIP	

Name of Planning Team Leader	
Title of Planning Team Leader	
Contact Email	
Contact Phone #	
Date Completed	

Others Involved with the Carnegie STEM Excellence Pathway Process

Name	
Title	
Name	
Title	
Name	
Title	
Name	
Title	
Name	
Title	

School / District Demographics

Total # of Students	
Total # of Schools	
% of Students Eligible for Free or Reduced Lunch	
Most Recent Annual District Budget	
Budget Year	

Please Check One Category that Best Describes the Area You Serve

Rural	
Suburban	
Urban	

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
TEACHER QUALIFICATIONS & DEVELOPMENT					
1 **Teacher Credentials and Training**	There is no current action in this area.	Fewer than 25% of teachers responsible for STEM content have additional formal training in STEM-specific content and pedagogy.	26% to 50% of teachers responsible for STEM content have additional formal training in STEM-specific content and pedagogy.	Majority of teachers responsible for STEM content have additional formal training in STEM-specific content and pedagogy.	All teachers responsible for STEM content have additional formal training in STEM-specific content and pedagogy.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
TEACHER QUALIFICATIONS & DEVELOPMENT					
2 **Professional Development Commitment**	There is no current action in this area.	School or district is formally exploring the feasibility of implementing a STEM leadership training and is researching possible models.	School or district is in the process of creating a professional development plan with progressions in STEM content and advanced pedagogy. The plan addresses new teacher induction, established teacher training, and sustaining progress through ongoing teacher mentoring or coaching. Mechanisms are in place for the plan to be sustained and implemented over time.	School or district has an early-stage professional development plan with progressions in STEM content and advanced pedagogy. The plan addresses new teacher induction, established teacher training, and sustaining progress through ongoing teacher mentoring/coaching. Mechanisms are in place for the plan to be sustained and implemented over time, and this process has already begun.	School or district has a fully developed professional development plan that is being implemented with progressions in STEM content and advanced pedagogy. The plan addresses new teacher induction, established teacher training, and sustaining progress through ongoing teacher mentoring/coaching. There is clear evidence that implementation of the plan is underway.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	TEACHER QUALIFICATIONS & DEVELOPMENT					
3	**STEM Teacher Leadership**	There is no current action in this area.	Schools and districts have identified STEM teacher leaders and provided organizational support, professional development, and resources for the STEM initiative. The STEM teacher leaders provide internal support and act as liaisons for external STEM resources.	Schools and districts have identified STEM teacher leaders and provided organizational support, professional development, and resources for the STEM initiative. The STEM teacher leaders provide internal support and act as liaisons for external STEM resources. The district provides at least one form of support such as: extra planning periods, stipends, committed financial resources, and/or dedicated physical space.	Schools and districts have identified STEM teacher leaders and provided organizational support, professional development, and resources for the STEM initiative. The STEM teacher leaders provide internal support and act as liaisons for external STEM resources. The district provides at least two forms of support such as: extra planning periods, stipends, committed financial resources, and/or dedicated physical space.	Schools and districts have identified STEM teacher leaders and provided organizational support, professional development, and resources for the STEM initiative. The STEM teacher leaders provide internal support and act as liaisons for external STEM resources. The district provides three or more forms of support such as: extra planning periods, stipends, committed financial resources, and/or dedicated physical space.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

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April, 2016

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
TEACHER QUALIFICATIONS & DEVELOPMENT					
4 **Peer Mentoring and Coaching of Teachers**	There is no current action in this area.	Peer mentoring mechanism is encouraged and occurs on an informal level, but formal mechanisms are not yet in place.	Teachers are engaged at least twice per year in STEM peer mentoring mechanisms (such as regular meetings, peer teaching observations, online discussion groups, professional development, and/or curriculum analysis) that allow teachers to discuss and work to improve STEM curriculum, instruction, and assessment. Peer mentoring mechanisms are in place and used.	Teachers are engaged at least once in each grading period in STEM peer mentoring mechanisms (such as regular meetings, peer teaching observations, online discussion groups, professional development, and/or curriculum analysis) that allow teachers to discuss and work to improve STEM curriculum, instruction, and assessment.	Teachers are engaged at least monthly in STEM peer mentoring mechanisms (such as regular meetings, peer teaching observations, online discussion groups, professional development, and/or curriculum analysis) that allow teachers to discuss and work to improve STEM curriculum, instruction, and assessment.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

April, 2016

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	CURRICULUM					
5	**Diversity and Breadth of STEM Curriculum Offering**	There is no current action in this area.	STEM course content is available in all core science areas (life, earth, and physical science) and in computer/technology literacy. At HS level, math courses through at least pre-calculus are available. All STEM course content is aligned with state standards.	STEM course content is available in all core science areas (life, earth, and physical science) and in basic computer programming. At the HS level, math, including pre-calculus, is available. A second year of coursework is available in at least one science or technology area. Courses are designed to more rigorous standards such as Next Generation Science Standards. Vocational Education curriculum reflects targeted workforce development needs.	Meets all previous criteria and offers post-secondary or AP level in at least one area. At least one course is offered in a broader range of STEM areas such as engineering, computer programming, technical design, and/or computer-aided machining. Other areas of intensive vocational training are available.	STEM courses are available in all core science areas (life, earth, and physical science), including calculus at the post-secondary or AP level. A broader range of STEM coursework such as engineering, computer programming, and/or technical design are readily available. Capstone courses that incorporate true interdisciplinary approaches, such as environmental science, public health, and/or vocational certifications, are available.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	CURRICULUM					
6	**Curriculum Integration**	There is no current action in this area.	Curriculum integration occurs occasionally. May be limited to a few teachers or to only a few subject areas.	Curriculum integration is frequent, but episodic. Most teachers integrate STEM and non-STEM curriculum areas, at least in special projects.	Curriculum integration is consistent, and STEM and non-STEM course content are explicitly connected in at least one lesson per grading period.	Curriculum integration is consistent, and STEM and non-STEM course content are explicitly connected in two or more lessons per grading period.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
CURRICULUM					
7 **Collaborative Planning of STEM Curriculum**	There is no current action in this area.	STEM teachers work together to ensure alignment of STEM curriculum with state standards.	Teachers jointly discuss content for their STEM courses and agree upon learning objectives to be met to prepare students for subsequent coursework.	Teachers meet all previous criteria and explicitly plan learning objectives that integrate math and science courses. Interdepartmental planning and cross-grade-level planning occur within the district.	Teachers jointly create a curriculum map to sequence the entire STEM curriculum. Essential questions and key understandings are defined. Collaboration and sharing of best practices occur across the district.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	INSTRUCTIONAL PRACTICES					
8	**Inquiry-Based Teaching**	There is no current action in this area.	STEM coursework occasionally is based on student- or teacher-initiated questions that are clearly linked to students' learning experiences.	STEM coursework frequently is based on student- or teacher-initiated questions that are clearly linked to students' learning experiences.	STEM coursework is largely based on student- or teacher-initiated questions that are clearly linked to students' learning experiences.	STEM coursework is nearly always based on student- and teacher-initiated questions that are clearly linked to students' learning experiences.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
INSTRUCTIONAL PRACTICES					
9 **Student Participation**	There is no current action in this area.	Students regularly participate in classroom activities, with some classroom time involving active research and inquiry-based, hands-on exploration.	Students regularly participate in classroom activities, with at least half of classroom time involving active research and inquiry-based, hands-on exploration.	Students regularly participate in classroom activities, with more than half of classroom time involving active research and inquiry-based, hands-on exploration.	Students at all academic levels are involved consistently in inquiry-based STEM learning. Special opportunities are available for girls and other groups underrepresented in STEM fields.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
INSTRUCTIONAL PRACTICES					
10 **Project-Based Learning Applied in Real-World Settings**	There is no current action in this area.	STEM courses include occasional short-term projects with real-world applications.	Up to half of students' STEM learning time involves extended projects that directly address real-world issues.	Majority of students' STEM learning time involves extended projects that directly address real-world issues.	Majority of students' STEM learning time involves extended projects that directly address real-world issues. Students have direct experience applying their knowledge in a community setting.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	INSTRUCTIONAL PRACTICES					
11	**Flexible Scheduling for STEM Projects, Events, etc.**	There is no current action in this area.	Little flexibility exists in scheduling extended blocks of time. Teachers have arranged this on occasion, but it is very rare and not encouraged.	Schedules can be modified to allow for blocks of STEM time if needed, but it requires extensive effort and negotiation by teachers. Approximately 25% of STEM teachers feel they can make use of this option if needed.	Procedures are in place for modifying student schedules to allow for extended time blocks if needed for special STEM projects or out-of-school opportunities. Approximately 50% of STEM teachers feel they can make use of this option if needed.	Clear procedures are in place for modifying schedules to allow for extended time for special STEM projects or out-of-school opportunities. Approximately 75% of STEM teachers feel they could make use of this option if needed.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
ASSESSMENT AND DEMONSTRATION OF SKILLS					
12 **Authentic Quality Assessments**	There is no current action in this area.	Students' STEM skills are evaluated through assessments, including local benchmark assessments and standardized tests.	Students' STEM skills and competencies are evaluated through multiple methods, including standardized testing (such as AP tests) and project reviews. Assessments reflect content knowledge as well as students' mastery of inquiry-based processes.	Students' STEM knowledge, skills, and competencies are evaluated through multiple methods, including testing and project reviews. Students are engaged in using assessment results to plan and shape their learning experiences.	Meets all previous criteria. Additionally, students' STEM skills and competencies are evaluated through demonstration over time in real-world, project-based learning applications.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
ASSESSMENT AND DEMONSTRATION OF SKILLS					
13 **Student Achievement**	There is no current action in this area.	40% to 60% of students meet expected levels of proficiency on local benchmark assessments or standardized tests in at least one STEM area.	61% to 75% of students meet expected levels of proficiency on local benchmark assessments or standardized tests in two or more STEM areas.	More than 75% of students meet expected levels of proficiency on local benchmark assessments or standardized tests in two or more STEM areas.	Program meets all previous criteria and at least 25% of age-appropriate students participate in AP or post-secondary coursework and/or career-related certifications or are offered similar advanced work appropriate for their developmental level and age.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	**Emerging**	**Progressing**	**Advancing**	**Leading**
FAMILY ENGAGEMENT					
14 **Regular Communications**	There is no current action in this area.	Families are informed of the definition and importance of STEM, as well as coursework goals and activities, at least once during the year.	Families receive updates on STEM coursework goals and activities a few times per year and can readily pose questions to appropriate personnel.	Families receive updates on STEM coursework goals and activities multiple times per year and can readily engage in discussion with teachers and other families.	Families receive regular communication on STEM coursework goals and activities and have many opportunities to give and receive information on their child's learning.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
FAMILY ENGAGEMENT					
15 **Opportunities for Families to Engage in STEM Learning**	There is no current action in this area.	Families are informed of school and community activities that promote lifelong STEM learning.	Families have regular opportunities to observe and participate in STEM learning activities.	Families have regular opportunities to contribute their expertise to STEM learning activities for students. Specific events are offered to engage families.	A broad range of families, with diverse skill sets, have regular opportunities to contribute their expertise to STEM learning activities. Family-specific events are offered. Families can serve on STEM advisory groups.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

	Pre-Emerging	Emerging	Progressing	Advancing	Leading
REAL-WORLD CONNECTIONS					
16 **Corporate Connections**	There is no current action in this area.	Corporate partners provide occasional support by sharing technical expertise or resources with STEM teachers.	Corporate partners provide regular support by sharing technical expertise or STEM resources with teachers or students.	Corporate partners provide regular and long-term mentoring relationships with teachers and students in which they share STEM resources.	Corporate partners are engaged through a formal, structured commitment (for example, a memorandum of understanding or documentation of desired outcomes) to provide technical assistance, share staff expertise, and provide students with first-hand experience in STEM workplaces.
Mark current district status overall					
Notes on variations in status within the district					
Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	REAL-WORLD CONNECTIONS					
17	**Other Community Partners** such as Universities, Science Centers, STEM trade associations, etc.	There is no current action in this area.	Community partners provide occasional support by sharing technical expertise or resources with STEM teachers.	Community partners provide regular support by sharing technical expertise or STEM resources with teachers or students.	Community partners provide regular and long-term mentoring relationships with teachers and students in which they share STEM resources.	Community partners are engaged in a long-term commitment to provide technical assistance, share staff expertise, and provide students with first-hand experience in STEM workplaces.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

April, 2016

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	REAL-WORLD CONNECTIONS					
18	**Citizen Decision-Making / Civic Engagement**	There is no current action in this area.	Community-level issues are referenced as examples in STEM coursework.	Community-level issues are occasionally integrated into project work in STEM courses.	Community-level issues are consistently integrated into project work in STEM courses.	Students are encouraged and supported to apply STEM knowledge from relevant project work and act individually and/or as a group on community-level issues.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

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		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	REAL-WORLD CONNECTIONS					
19	**Career Awareness**	There is no current action in this area.	Students are exposed to STEM speakers and may complete research to increase their awareness of a wide variety of STEM fields.	Students have access to STEM field trips or group visits to STEM workplaces with a chance to interview workers about their job responsibilities, training, and career path.	Students have multiple opportunities for individual internships or job shadowing in STEM-related fields and are supported in connecting the experience to STEM coursework.	STEM coursework meets all previous criteria and consistently engages students in researching and preparing for long-term regional workforce opportunities. Special opportunities are available for girls and other groups underrepresented in STEM fields.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

		Pre-Emerging	Emerging	Progressing	Advancing	Leading
	REAL-WORLD CONNECTIONS					
20	**College and Career-Ready Skills**	There is no current action in this area.	On rare occasions, students have opportunities to demonstrate creativity, innovation, problem solving, teamwork, and communication skills.	Students have occasional opportunities to demonstrate creativity, innovation, problem solving, teamwork, and communication skills.	Students have frequent opportunities to demonstrate creativity, innovation, problem solving, teamwork, and communication skills.	Students have ongoing opportunities to consistently demonstrate creativity, innovation, problem solving, teamwork, and communication skills.
	Mark current district status overall					
	Notes on variations in status within the district					
	Notes on evidence for current status					

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Priority Selection

Teacher Qualifications and Development
- Teacher Credentials and Training
- Professional Development Commitment
- STEM Teacher Leadership
- Peer Mentoring and Coaching of Teachers

Curriculum
- Diversity and Breadth of STEM Curriculum Offering
- Curriculum Integration
- Collaborative Planning of STEM Curriculum

Instructional Practices
- Inquiry-Based Teaching
- Student Participation
- Project-Based Learning Applied in Real-World Settings
- Flexible Scheduling for STEM Projects, Events, etc.

Assessment and Demonstration of Skills
- Authentic Quality Assessments
- Student Achievement

Family Engagement
- Regular Communications
- Opportunities for Families to Engage in STEM Learning

Real-World Connections
- Corporate Connections
- Other Community Partners
- Citizen Decision Making/Civic Engagement
- Career Awareness
- College and Career-Ready Skills

CARNEGIE STEM Excellence PATHWAY

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ACTION PLANNING GUIDE

Now that you've identified up to three priority areas for improvement, it is time to put together an Action Plan! Here are some important things to keep in mind when developing this plan.

- **Obstacles and Challenges –** What may stand in the way? What challenges currently exist or may arise as you try to achieve your objectives?

- **Resources Needed (Internal & External) –** What resources will you need, both internal (within the school/district) and external (from community partners)? Consider resources that currently exist as well as those that may be available to be obtained. Remember that time, money, personnel, materials, space and research are all potential resources.

- **Action Steps (S.M.A.R.T. Objectives) -** The establishment of all objectives should be created using the S.M.A.R.T. philosophy. Each objective should be: **S**pecific; **M**easurable; **A**chievable; **R**elevant; and **T**ime-Oriented.

  Specific: What is to be done? What will you achieve? What will it look like? How will you know it when you see it?

  Measurable: Define the objective using assessable terms (quantity, quality, frequency, costs, deadlines, etc.). How will you know it meets expectations? What are the quantity expectations? What are the frequency expectations? What are the cost expectations? What are key deliverables and deadlines? How will you know it is done?

  Achievable: Can we really do it? Do we have the experience, knowledge, and capability needed to fulfill the expectation? Do the people who will be making it happen have a way to carve enough time out of their schedules? Can it be done giving the time frame, opportunity and resources? Is this realistic?

  Relevant: Should it be done? Why? What will be the impact? Is the objective aligned with an overall strategic plan and the other "big picture" issues?

  Time-oriented: When will it be done? What are key milestones? What is the time line for completion?

You may use our worksheet, or create your own, to identify your Action Plan for your Carnegie STEM Excellence Pathway priorities.

ACTION PLAN

School/District:_____

Completion Date:_____   **Follow-Up Date:**_____

Priority Area	Obstacles/Challenges	Resources Needed (Internal & External)	Action Steps (S.M.A.R.T. Goals)
#1: Current Rating: Target Rating:			
#2: Current Rating: Target Rating:			
#3: Current Rating: Target Rating:			