Ohio

A Quality Model for STEM and STEAM Schools

RECOMMENDATIONS FROM THE STEM INNOVATION WORKING GROUP

OHIO DEPARTMENT OF EDUCATION OFFICE OF INNOVATION

Ohio | Department of Education

Foreword

Future economic growth and prosperity in Ohio depends on an aligned education system that supports the state's economic development efforts and helps all Ohio students to become innovators and inventors, self-reliant and logical thinkers, and technologically proficient problem solvers. In 2007, Ohio enacted legislation to create STEM schools, an initiative designed to better align education systems to ensure sufficient intellectual, entrepreneurial, and technical talent for Ohio's future economic development. As 2017 marks the 10-year anniversary of this legislation, in the fall of 2016 the Ohio Department of Education Office of Innovation convened an informal STEM Innovation Working Group, to build upon ideas for next steps in STEM education in Ohio.

The primary purpose of the STEM Innovation Working Group, made up of individuals and organizations who support STEM education in some capacity, is to assist the Office of Innovation in identifying where gaps in student readiness and teacher professional development may still exist, and in identifying priorities and common goals for STEM education. Feedback from the working group is presented to the STEM Committee, who authorizes STEM designation for approved schools in Ohio.

Goals, priorities and possible strategies identified in early conversations with the STEM Innovation Working Group are presented in the chart *A Vision for Next Generation STEM Innovation in Ohio*, that follows. The working group identified the need for a quality metric for STEM schools, to ensure quality programming that promotes innovation and preserves the integrity of Ohio's goals for STEM education. Over the course of the 2016-2017 school year, the Office of Innovation met with the working group to collect feedback regarding the essential criteria for high quality STEM schools and programs. These criteria and associated discussions formed the foundation for this document.

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A Vision for Next Generation STEM Innovation in Ohio

Vision: Ohio will be recognized as a leading state in having a well-qualified workforce to attract STEM-related investments in business and industry.

Mission: To create and promote initiatives that will pave the way for growth and economic development in Ohio, through multi-sector partnerships for STEM-related learning experiences for Ohio's students.

Goals	**Alignment** *Align STEM Education efforts to regional economic development needs, emphasizing innovation and entrepreneurship.* • In PK-12 STEM education, enhance the voice of Industry, Higher Ed and other agencies, by increasing the degree of collaborative, active engagement in the preparation of Ohio's future STEM workforce. • Increase alignment of STEM educational programs to state and regional industry needs. • Increase emphasis and student participation in learning opportunities that focus on computer science.	**Accessibility** *Work to ensure that all students in Ohio have access to a high-quality STEM education, and promote STEM literacy for ALL students.* • Increase STEM designation participation, especially in Northwest and Southeast Ohio, and in rural or small districts. • Increase student participation in authentic mentorship, internship and research opportunities in STEM, especially for underserved students and students in rural and small districts. • Decrease barriers to STEM designation and STEM literacy. • Increase accessibility to highly qualified educators knowledgeable in STEM subjects, especially for underserved students and in rural and small districts.	**Advocacy** *Leverage and enhance existing networks to increase awareness and participation in quality STEM opportunities for students, educators and families.* • Collaborate with other state agencies, organizations, industry and local advocates to increase awareness of opportunities for students, educators and families to engage in STEM-related activities. • Increase awareness of various pathways to STEM careers available to students, including 4-year and advanced degrees, 2-year degrees, certificates and apprenticeships. • Increase awareness of the benefits of STEM literacy for all students. • Increase awareness of the benefits of STEM as a vehicle for deeper learning.
Strategies	**Partnerships** *Work collaboratively with the STEM Committee, the Ohio STEM Learning Network, higher education and other public and private partners to develop a long term plan for "next generation" STEM Innovation in Ohio.* • Create a STEM working group, to provide feedback to the department of education regarding greatest achievements and greatest challenges for STEM education in Ohio. Utilize feedback to drive improvement efforts. • Examine alignment of STEM educational programs to state and regional industry needs, and make recommendations for improvement. • Identify key indicators and pre-existing metrics and use them to monitor progress toward goals. • Utilize and enhance existing partnerships to identify and promote innovative and research-based best practices.	**Pathways** *Identify and promote various pathways to STEM careers available to students, and develop a metric for recognizing quality pathways and programs.* • Create/identify and promote STEM career pathways leading to 4-year and advanced degrees, 2-year degrees, certificates, and apprenticeships that promote the application of cutting-edge technology and the growth of innovative new industry in Ohio. • Consider an elementary designation. • Create metrics and programs for recognizing quality and level of immersion in STEM for schools, pathways, and programs, to encourage participation where a whole-school commitment may not be feasible.	**Preparedness** *Work collaboratively with higher education, ESCs, and other partners to provide support for teacher recruitment and preparation for teaching STEM subjects.* • Define and approve "high quality" teacher licensure programs and pathways for STEM educators. • Create/identify and promote externship programs with industry partners for teachers and leaders to experience content as it is applied in industry and to engage in industry research and development projects. • Utilize teacher-leader networks, local advocates, and peer-to-peer role models in providing local professional development and support for STEM educators. • Provide focused professional development opportunities to teachers for improving STEM content knowledge, including computer science.

Acknowledgements

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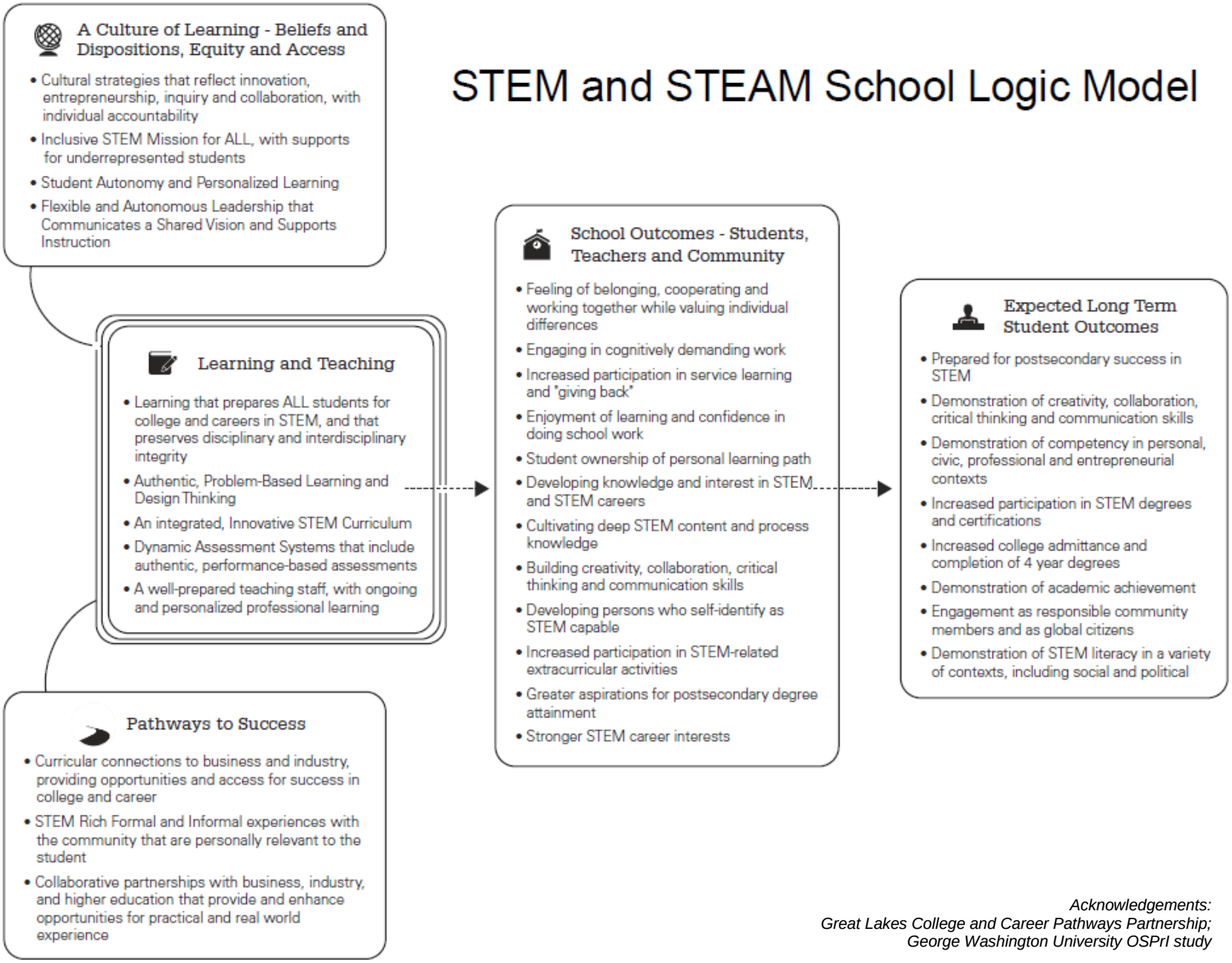
Introduction

The purpose of the Quality Model is to promote innovation and to assist schools in aspiring toward high quality STEM and STEAM implementation at the local level. The Quality Model is also intended to provide clarity for schools applying for STEM or STEAM designation. Drawing from research studies of inclusive STEM schools, STEM school guidance documents from other states, and additional resources, the STEM Innovation Working Group identified twelve criteria as essential for producing the desired outcomes, as shown in the Logic Model on the following page. These criteria have been organized into three overarching domains: School Culture and Beliefs, Learning and Teaching, and Pathways to Success in Careers. A summary is included on page 9, followed by elaboration for each essential criterion.

The elaboration for each criterion is designed to provide a description along with clarifying points. Schools should note that the bulleted points are not intended to be a checklist or to imply that a school must be doing everything listed to be considered for STEM or STEAM designation. Rather, the bulleted points are included simply to provide clarification and examples, to assist schools in visualizing what high quality STEM or STEAM implementation can look like.

It is the view of the Department and the STEM Innovation Working Group that there is no "one right way" of designing and implementing high-quality STEM or STEAM programming. A good program will reflect community values and the unique culture of the school, which will vary depending on the local context. Additional resources with guidance around best practices are available on the Department's STEM web page, at https://education.ohio.gov/Topics/Career-Tech/STEM.

STEM and STEAM School Logic Model



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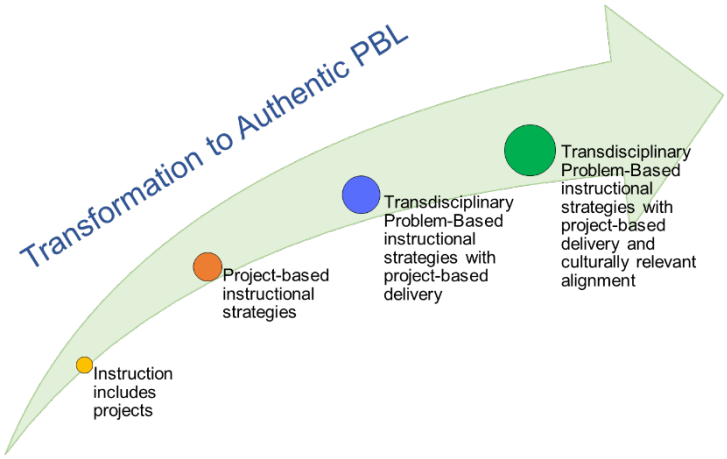
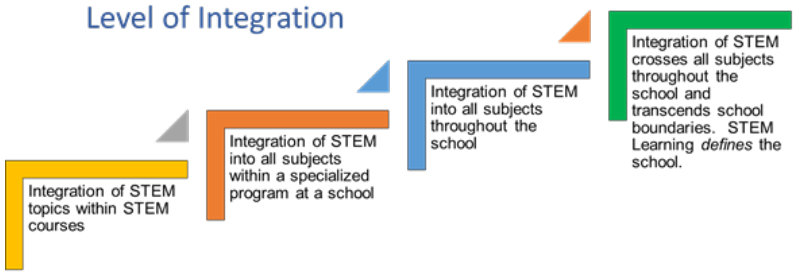
Great Lakes College and Career Pathways Partnership;
George Washington University OSPrI study

Central to STEM and STEAM schools is an instructional model that includes an innovative, integrated curriculum with multiple opportunities for students to engage in authentic, problem-based learning and design thinking. STEM- and STEAM-designated schools must demonstrate an integrated curriculum that is project-based. Schools aspiring toward this innovative instructional model should consider both the depth and breadth of integration, as exemplified in the below continua for transformation to authentic problem-based learning and level of STEM integration. At the deepest level, project-based learning is *embedded* in authentic problem-based learning opportunities that are transdisciplinary, transcend school walls, and address issues relevant to the global or local community and the student. When deeply implemented, problem-based learning serves to define the school's instructional model – as opposed to occasional projects implemented by a few teachers.



For schools aspiring toward STEM or STEAM designation, breadth of integration is also essential. This diagram points out an important difference between a STEM *program* and a STEM *school*. In a STEM or STEAM school, STEM is broadly integrated into all subjects throughout the school. In a STEAM school, the arts and design are also integrated into science, technology, engineering and math to catalyze STEM learning.



How to Use this Document

Schools are encouraged to use the included descriptions and bulleted points, in conjunction with other resources, as the basis of local discussion and professional development around school transformation and innovation. Space for notes is included with each criterion. A summary tool is included as an Appendix, should schools wish to use the Quality Model for self-evaluation.

Schools are reminded that the bulleted points should not be used as a checklist, but are intended to assist schools in visualizing what high quality STEM or STEAM implementation can look like. Currently designated STEM schools and aspiring STEM schools alike can benefit from focused professional development aligned with the essential criteria.

Overview

Essential Criteria for High Quality STEM and STEAM Implementation

Domain I. A Culture of Learning – Beliefs and Dispositions, Equity and Access

STEM and STEAM Schools exhibit:

1. cultural strategies that reflect innovation, an entrepreneurial spirit, inquiry, and collaboration with individual accountability.

2. an inclusive mission that supports ALL students.

3. opportunities for personalized learning.

4. flexible and autonomous leadership that communicates a shared vision, and that supports innovative instruction.

Domain II. Learning and Teaching

STEM and STEAM Schools exhibit:

5. learning that prepares ALL students for college and careers in STEM, and that preserves disciplinary and interdisciplinary integrity.

6. authentic, problem-based learning and design thinking.

7. an integrated, innovative curriculum.

8. dynamic assessment systems that include authentic, performance-based assessments.

9. a well-prepared teaching staff, with ongoing and personalized professional learning.

Domain III. Pathways to Success in Careers

STEM and STEAM Schools exhibit:

10. curricular connections with business and industry, providing opportunities and access for success in college and career.

11. STEM-rich formal and informal experiences with the community that are personally relevant to the student.

12. collaborative partnerships with business, industry, arts, and higher education that provide and enhance opportunities for practical and real-world experience.

Domain I. A Culture of Learning – Beliefs and Dispositions, Equity and Access

Essential Criterion1: *STEM and STEAM schools exhibit cultural strategies that reflect innovation, an entrepreneurial spirit, inquiry, and collaboration with individual accountability*.

Cultural Strategies - Cultural strategies reflect a community's understanding of success. Community needs drive instructional and delivery strategies in each school. Habits of Mind reflect what a community values in a successful adult, and are explicitly taught and continually utilized within the school.

Habits of Mind reflect what a community values and explicitly teaches.

Innovation - and risk-taking are encouraged on an ongoing basis, through:

- honoring all ideas and input.
- design thinking.
- empowering to instill responsibility and accountability.
- providing opportunities to demonstrate learning (e.g., student exhibits on-site, online, in state and national forums, etc.).

An Entrepreneurial Spirit - is valued and encouraged, through:

- developing a shared mission and vision for creating new processes, products, or ideas.
- establishing partnerships with higher education, local business/industry and community input.
- sharing new processes, products, or ideas within the community.

Inquiry - is valued and encouraged through:

- encouraging an inclusive culture of creativity and exploration.
- facilitating student-driven investigations rather than teacher-driven learning.

Collaboration and Communication - are valued and encouraged through**:**

- community partners as peers in the learning process.
- teamwork.
- opportunities for authentic presentations.

Individual Accountability - is demonstrated by students**:**

- persevering through academic and non-academic challenges.
- understanding that setbacks are opportunities for growth.
- understanding that practice improves performance.
- through reflection and self-assessment.

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Essential Criterion 2: *STEM and STEAM schools exhibit an inclusive mission that supports ALL students*.

Inclusive Mission that supports ALL students - The school environment is open and validating to all students.

- The school provides multiple opportunities to inspire and inform students about careers and academic pathways in STEM/STEAM-related fields.
- The school supports students beyond the school day (e.g., bridge programs, extended school day, extended school year, looping, social services, etc.)
- All students have access to age-appropriate interests (e.g., shadowing experiences for younger students, internships for older students, etc.).
- Schools design and implement interventions designed to close gaps in academic and nonacademic skill areas.

Essential Criterion 3: *STEM and STEAM schools exhibit opportunities for personalized learning*.

Personalized Learning - Students have ownership of their own learning, set goals, and make choices about how to accomplish them.

- Personal learning pathways are student-driven, and students have multiple ways to show what they know.
- Students participate in work-based learning experiences to make connections between the content they are learning and their lives.
- Staff support students in developing and maintaining student-created learning plans and monitoring progress toward future goals.
- Instructional strategies, materials, and pacing are flexible and based on needs of students.
- Students can earn credit based on mastery, and are not penalized for taking additional time to demonstrate learning.
- Students have voice and choice when developing learning opportunities.

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Essential Criterion 4: *STEM and STEAM schools exhibit flexible and autonomous leadership that communicates a shared vision, and that supports innovative instruction.*

Flexible and Autonomous Leadership - School leaders are open, agile, and driven by a vision for learning. They lead by example and create an environment of high expectations, sparking a passion for learning and preparing students both academically and socially for their futures.

Communicates a Shared Vision - Leaders create, clearly articulate and follow a shared vision. Leaders:

- establish a STEM advisory committee for ongoing monitoring of the school's mission, vision and scope, that includes parents and representatives from the school, community, governing board, higher education institutions, and industry.
- develop and promote a consistent understanding of STEM among all stakeholders.
- establish and sustain connections to local business, industry and higher education.
- collaborate with stakeholders to measure the effectiveness of the program, including measures of self-efficacy and continued interest in STEM.

Supports Innovative Instruction - Leaders empower teachers to facilitate inquiry and problem-based learning. Leaders support:

- a culture of teacher autonomy and professional accountability.
- structures for teachers, including common planning time within the school day, to support cross-curricular collaboration and professional learning.
- a mindset within the school where staff and students are unafraid to take risks.
- school structures that focus on personalizing the student experience.
- opportunities for sharing research and best practices related to STEM program goals.
- applied learning and work-based learning experiences for teachers.
- a school strategic plan and annual action plan that prioritizes investment in professional development for teachers, that includes cross-curricular integration, community partnerships, connections with higher education and industry, STEM pedagogy, and/or applied technology.

Leaders are encouraged to participate in:

- STEM-related professional development and networking, which addresses integrated content, community/industry partnerships, connections with postsecondary education, pedagogy, and/or digital learning, to ensure progressive expectations for educators' application of content knowledge, curriculum design, and delivery.
- externships and mentorships with higher education and industry.

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Domain II. Learning and Teaching

Essential Criterion 5: *STEM and STEAM schools exhibit learning that prepares ALL students for college and careers in STEM, and that preserves disciplinary and interdisciplinary integrity.*

Scholarship - All stakeholders are engaged in learning, where STEM and STEAM disciplinary practices and habits of mind are explicitly and intentionally integrated to effectively participate in a global society.

- Mastery/competency is a core construct of learning expectation.
- Topics are investigated for an extended period of time, allowing for more depth and complexity.
- Emphasis is placed on reasoning and problem solving (e.g., scientific reasoning, engineering design, computational thinking, design thinking, argument from evidence) embedded throughout the curriculum.
- Learning targets higher order thinking and deep engagement, collaborative efforts, and effective communication.
- Students have opportunities to engage in advanced learning beyond school walls.

Integrity of Academic Disciplines (Content) - Learning experiences are content-accurate, anchored to the relevant content standards, and focused on the big ideas and foundational skills critical to future learning in the discipline(s).

- Students engage in interdisciplinary STEM/STEAM content as the focus of the school curriculum.
- Curriculum is vertically and horizontally aligned, and is centered on educational and/or industry standards or other recognized frameworks.
- Learning experiences and environments are immersive and reflective.
- Students engage in diverse curriculum offerings that incorporate relevant technologies (e.g., research, engineering, computer science, design, digital fabrication, etc.).

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Essential Criterion 6: *STEM and STEAM schools exhibit authentic, problem-based learning and design thinking.*

Authentic - Students learn by doing, and regularly engage in activities that connect learning to real-world issues, situations, and problems. Students acquire critical thinking, creative problem solving, research, and effective communication skills.

- Connections to local and real-world contexts are evident.
- Contextual learning includes field experiences that directly connect to standards.
- Classrooms and schools are designed for collaborative work.
- Students connect and work with community partners (e.g., organizations, business and industry, post-secondary institutions, etc.), and have opportunities to contribute to the knowledge base, increasing authenticity and accountability.
- Students regularly exercise skills used in the workplace (e.g., demonstrating leadership and responsibility, presenting information effectively, exercising time management, organizing their work, etc.).

Problem-based Learning - Problem-based learning (PBL) requires a process of inquiry (often interdisciplinary) that builds knowledge through immersive projects. Students experience research, problem-solving and project documentation, and participate in presentations of learning to authentic audiences multiple times throughout the academic year.

- Problem-based learning drives instruction and curriculum.
- Authentic PBL is student-directed, open-ended inquiry, that results in the development of a solution or product that contributes to the larger community.
- PBL units include a culminating project that integrates content areas.
- Students design solutions with, and incorporate feedback from, a variety of authentic audiences (e.g., community members, peers, higher education, experts, industry, teachers, families, etc.).

Design Thinking - Design thinking involves an iterative process (e.g., researching, defining, ideating, prototyping, testing, modifying, sharing), and is referenced in all classes as a possible strategy for addressing a problem.

- Students demonstrate thinking skills in employing the design process, including opportunities to experience the recursive nature of the process.
- Entrepreneurial components are encouraged when appropriate.
- Design thinking develops solutions or products to address a human need identified by potential end users, in contexts that include but also extend beyond STEM topics (e.g., aesthetics, social issues, etc.).
- Design thinking provides opportunities to think and explore novel ideas (what is not already known), possibly using innovative approaches that are not already developed.

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Essential Criterion 7: *STEM and STEAM schools exhibit an integrated, innovative curriculum.*

Integrated - Students are regularly engaged in units that articulate interdisciplinary connections. Students can identify ways that disciplines are interrelated, reinforced, and complement one another.

- Learning experiences are planned and aligned by all grade levels and content areas, spiraling in increased complexity and rigor.
- Learning experiences require students to connect one or more disciplines, and includes instructional support for quality performance.

Innovative - Technology connects students with information systems, databases and research, mentors, and social networking resources for ideas during and beyond the school day. The school's structure and use of technology has the potential to change relationships between students, teachers and knowledge.

- Learning is supported and enhanced with authentic, relevant use of technology.
- Technology is integrated to promote creativity and innovation.
- Students identify and use the tools they need to solve problems.
- Technology is used to engage students in community, state, and global learning opportunities that extend beyond the classroom.

Essential Criterion 8: *STEM and STEAM schools exhibit dynamic assessment systems that include authentic, performance-based assessments.*

Dynamic Assessment Systems - Teachers augment traditional assessment with a variety of techniques, including authentic, performance-based assessments. Assessment recognizes teachable moments. It is active, ongoing, flexible and adaptable.

- Teachers use information on current student understanding to inform and plan future instruction. Formative assessment informs summative assessment and teaching efforts.
- Qualitative assessments, student self-assessments, reflection, peer observation, portfolios, practica and dialogue (e.g., student interviews, TED talks, classroom conversations, etc.) are included.
- Assessment may be supported and enhanced with authentic, relevant use of technology.
- Students have opportunities to choose how to demonstrate their learning and its relevance to society.

Authentic Performance-based Assessments - Assessment practices require students to make a meaningful connection between course content and the world around them. Assessments may be ongoing, cross-curricular and/or project-focused.

- Assessments allow students to demonstrate understanding of content, entrepreneurial thinking and employability skills.
- Assessments are linked to desired outcomes of authentic problem-based learning and design thinking activities.
- Student expressions of learning (artifacts) reflect the importance and impact of interactions with groups or individuals outside of the classroom (e.g., informal STEM/STEAM organizations, non-profit agencies, other students, museums, universities, business and industry partners, etc.).
- Students portray their learning process through collections of personal work and reflections.

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Essential Criterion 9: *STEM and STEAM schools exhibit a well-prepared teaching staff, with ongoing and personalized professional learning.*

Well-prepared Teaching Staff - Teachers effectively and consistently use best practices in STEM/STEAM pedagogy. Teachers are well-prepared either through education or work experience. Teachers facilitate authentic application of STEM/STEAM content and skills. Teachers design curricula that demonstrate real-world connections, with learning experiences that stimulate curiosity and creativity, and that facilitate transfer of knowledge and skills to new situations.

- School staff are well-versed in how to create and implement project/problem-based learning modules and design challenges to address real world problems.
- Teachers demonstrate a growth mindset disposition and willingness to learn.
- Teachers intentionally incorporate creativity, collaboration, communication and critical thinking skills into curricula and model these skills for students.
- Teachers understand students' needs, and collaborate to facilitate flexible, personalized learning.
- Cross-disciplinary teams meet regularly to discuss research, integrative best practices, successes, and opportunities for improvement toward STEM/STEAM school goals.
- Teachers work with business, industry, arts and academic partners to facilitate meaningful connections to workforce and the community. This may include co-teaching with industry-trained professionals.
- Teachers model use of relevant technology in real-world contexts.

Ongoing and Personalized Professional Learning - Professional development is ongoing, aligns with STEM initiatives, and includes support across the school year.

- Teachers regularly participate in STEM/STEAM-related professional development, which addresses integrated content, community/industry partnerships, arts, connections with postsecondary education, pedagogy, and/or digital learning.
- Teachers identify personalized professional development goals and select learning opportunities that meet their needs.
- Teachers participate in externships and mentorships with higher education and industry, to ensure progressive expectations for educators' application of content knowledge, curriculum design and delivery.

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Domain III. Pathways to Success

Essential Criterion 10: *STEM and STEAM schools exhibit curricular connections with business and industry, providing opportunities and access for success in college and career.*

Curricular Connections with Business and Industry - Learning experiences, during and outside of the school day, provide business and industry awareness and exploration, leading to career preparation, planning, and training.

Opportunities

- The school facilitates opportunities for students to be prepared to enter the workforce or college in STEM/STEAM.
- The school provides opportunities for applied learning in professional STEM/STEAM workplaces.
- Students have opportunities to learn about the pervasiveness of STEM/STEAM in society and careers.

Access

- Student career interests are developed through active student involvement in STEM/STEAM activities such as researching, shadowing and mentorships, and (for older students) apprenticeships and internships.
- High Schools provide access for students to complete certifications, credentials, and/or credit completion at community colleges, colleges and/or universities.
- As appropriate for the grade level, schools provide access to students for course credit opportunities (e.g., advanced placement courses, international baccalaureate courses, early college, college credit plus, etc.).
- Schools promote awareness of post-secondary preparation (e.g., development of effective study skills and self-regulation skills, and (for older students) college tours and assistance with the application process, etc.).

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Essential Criterion 11: *STEM and STEAM schools exhibit STEM-rich formal and informal experiences with the community that are personally relevant to the student.*

STEM-rich formal and informal experiences with the community

- Students have opportunities to engage in STEM/STEAM-related activities that have relevance to the community.
- Students and teachers partner with community members and families to take on service roles for students, classrooms, or teachers, to enhance learning experiences.
- Students seek and incorporate feedback on their work from a variety of authentic audiences in their community (e.g., community members who have knowledge of the problem/issue, etc.).

Personally relevant to the student

- The learning environment is student-driven and designed to challenge the minds and stimulate the imaginations of learners.

Essential Criterion 12: *STEM and STEAM schools exhibit collaborative partnerships with business, industry, arts, and higher education that provide and enhance opportunities for practical and real-world experience.*

Collaborative Partnerships - The school collaborates with business, industry, arts, and higher education partners to ensure alignment to intended pathways and local business and industry needs. Partners are part of the decision-making process. There is a business/industry and educator working advisory group.

- Partners support instruction (e.g., ideas for design challenges and problem-based learning, learning standards evaluation (industry), work-based learning development, credential alignment, etc.).
- Partners assist in providing ongoing, active work-based learning experiences each year, either during or outside of the school day (e.g., quality shadowing, internships, apprenticeships, etc.), so that students have direct experiences with STEM/STEAM professionals in authentic environments.
- Partners share resources (e.g., lab/design space, mentors, speakers, equipment, current industry information, expertise, meeting facilities, etc.).

Opportunities for Practical and Real-World Experience - Students and teachers have opportunities for contextualized learning, comparable to what they would find in business, industry and other professions.

- Students have frequent interactions with STEM/STEAM professionals outside the regular school day.
- Students and teachers collaborate with partners for mentorship, shadowing, consultation and feedback opportunities that enhance learning experiences.
- The school creates and supports opportunities for STEM/STEAM work-based learning experiences for students and teachers.
- Students actively work with employers in realistic problem-solving situations, relevant to students and the community.
- Students have opportunities to participate in STEM/STEAM-related competitions, on-site/online STEM/STEAM exhibits, and/or in local, state and national STEM/STEAM forums.

Notes:

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Appendix - Summary Tool for School Self Evaluation

A. Based on local discussions, decide whether each essential criterion is an area of strength or an area for growth for your school:

Essential Criteria – Areas of Strength or Growth

	Essential Criterion	Area of Strength	Area for Growth
1	cultural strategies that reflect innovation, an entrepreneurial spirit, inquiry, and collaboration with individual accountability	☐	☐
2	an inclusive mission that supports ALL students	☐	☐
3	opportunities for personalized learning	☐	☐
4	flexible and autonomous leadership that communicates a shared vision, and that supports innovative instruction	☐	☐
5	learning that prepares ALL students for college and careers in STEM, and that preserves disciplinary integrity	☐	☐
6	authentic, problem-based learning and design thinking	☐	☐
7	an integrated, innovative curriculum	☐	☐
8	dynamic assessment systems that include authentic, performance-based assessments	☐	☐
9	a well-prepared teaching staff, with ongoing and personalized professional learning	☐	☐
10	curricular connections with business and industry, providing opportunities and access for success in college and career	☐	☐
11	STEM-rich formal and informal experiences with the community that are personally relevant to the student	☐	☐
12	collaborative partnerships with business, industry, arts, and higher education that provide and enhance opportunities for practical and real-world experience	☐	☐

B. Identify two areas of strength that you would like to take to the next level – either by implementing more deeply, or perhaps more broadly across the school to involve more staff.

1.

2.

C. Identify one or two areas for growth that you would like to explore more fully, or perhaps begin to implement. Then, list resources, individuals and/or organizations that could support you in developing these areas. Follow up with a professional development plan that includes these resources.

1.

2.

Resources, individuals and/or organizations that could support these areas: