HOUSTON INDEPENDENT SCHOOL DISTRICT

2017-2018
STEM Standards

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STEM Standards for Successful Schools
The Houston Independent School District

Although the importance of STEM occupations has existed for quite some time, the necessity of a systematic, collegiate and industry-aligned approach to STEM in the K-12 environment is of more recent interest. Over the last decade, the number of schools that call themselves STEM or claim a STEM focus has flourished. This is both a national and local trend. Approximately 20% of HISD schools now describe themselves as "STEM" in some fashion.

The Houston Independent School District (HISD) has established the following set of standards to assist schools with developing and strengthening their STEM focus. These standards highlight the actions of the school rather than the taught content. They are a set of descriptors and expectations for successful HISD STEM programs. The standards are in the form of a rubric formative instrument to help schools document their progress toward an effective and rigorous STEM culture. This rubric was *not* designed to be a summative evaluation of a STEM program. However, it does allow schools to see with confidence the progress they are making and to identify areas for greater attention.

HISD is not the only district with STEM standards. Our committee leveraged the collective expertise of other districts, states, national organizations, and individuals to create this framework. To align within-district STEM systems, input was provided from multiple departments including Curriculum, Linked Learning, Instructional Technology, Career and Technical Education, College and Career Readiness, Family and Community Engagement, and the Office of School Choice. Ultimately, at the macro and micro level all STEM programs should be working toward the same goals.

The HISD standards fall into five categories.

I. Mission and Vision
   a. **Leadership**
   b. **Planned Alignment of Resources**
   c. **High-Quality Instructional Systems**
   d. **Diversity and Access**
   e. **Program Evaluation**
   f. **Stakeholders**

II. Culture and Design
   a. **Intellectual Curiosity**
   b. **Awareness**
   c. **Collaborative**
   d. **Experiential in Nature**
   e. **Project/Problem-Based**
   f. **Technology-Rich**

III. Teaching and Learning
   a. **Learn and Apply Rigorous Content**
   b. **Integrate Content**
   c. **Interpret and Communicate Information**
   d. **Engage in Enquiry**
   e. **Engage in Logical Reasoning**
   f. **Collaborate as a Team**
   g. **Apply Technology Strategically**

IV. Professional Development
   a. **Instrumentation**
   b. **Context-Relevant**
   c. **Collaboration**
   d. **Modeling**
   e. **Field Experience**
   f. **Reflection and Continuous Improvement**

V. Alliances
   a. **Industry**
   b. **Higher Education**
   c. **Stakeholders**
   d. **Vertical Alignment**

I. STEM Program Mission and Vision

Goal: Leadership plays a vital role, ensuring a strong, on-going STEM program, allocating necessary resources of time, funding, and human capital.

Key Element for Success	**Example Artifacts:**
School leadership ensures the pervasiveness of STEM in the campus mission, vision, and program implementation.	Vision and planning documents (internal) School Improvement Plans (SIPs) Succinct mission and vision for STEM implementation is communicated through literature that is publicized on the website and in print Budget plans Technology integration with multiple tools is evidenced during walk-throughs. Multiple assessments are available for review. Data from the assessments is accessible and organized to provide instructional direction School schedule includes planned collaborative planning times for teachers Targeted recruitment plans PD plans for new and advanced teachers Stakeholder advisory role is documented through agendas, sign-in sheets, and planning documents.

Indicator	Developing	Implementing	Mature	Role Model
Leadership	Leadership is beginning to publicize the school as a STEM program. There is not yet a clear understanding of STEM and the benefits.	Stakeholders are aware of the program, but struggle to articulate the benefits of STEM.	Stakeholders at all levels are consistent in their articulation of the STEM program and its benefits.	Leadership at the school ensures STEM is in the school planning and goals; all stakeholders can articulate the STEM program's benefits including how it relates to academic achievement and college and career readiness.
	Leadership guides initial stages of STEM implementation.	Implementation is not pervasive in any subject area.	Implementation is pervasive in Science, Technology, Engineering, and Math classes.	The implementation of STEM is pervasive in all subject areas.
Planned Alignment of Resources	There is little evidence of financial, personnel, or technology resource planning for STEM.	Financial, personnel, and technology resource planning is happening and there is some evidence of the STEM program's integration into other school priorities.	Financial, personnel, and technology resource planning is comprehensive and there is very clear evidence of the STEM program's integration into other school priorities.	Financial, personnel, and technology resource planning provide clear evidence of total integration of STEM resources with other school priorities. Creative and careful planning has resulted in the total being more than the sum of the parts.
	School and STEM program resources are largely thought of and used as if they were in separate silos.	School and STEM program resources have some overlap.	School and STEM program resources have much overlap and there is evidence of effective, cost-efficient use of these resources.	
High-Quality Instructional Systems	Leadership is starting to create systems for planning and execution of the cross-curricular instruction.	Leadership provides clear support for planning and collaboration between subject area teachers.	Leadership provides systems, including the scheduling of consistent planning and collaboration, across all subjects	Teachers use planning systems to integrate STEM throughout the curriculum for all students and to correct deficiencies in academic performance.

	Some teachers are learning to use data to identify STEM areas of strength and weakness.	*Many* teachers are systematically using data systems to improve their STEM instruction.	*Most* teachers are systematically using data systems to improve their STEM instruction.	Data is used frequently and systematically to improve STEM outcomes.
	Some systems are in place to support students struggling with STEM content.	Systems are in place to support students struggling with STEM content and some students are being helped.	Systems are in place to support students struggling with STEM content and numerous students are being helped.	Systems are in place, seamlessly supporting all students struggling with STEM content.
Diversity & Access	Recruitment efforts generally target students and schools that are high-performing and do not include students traditionally underrepresented in STEM programs and fields.	Recruitment strategies include some efforts to target traditionally underrepresented students, but these efforts do not lead to enrollment and retention of students in percentages aligned with the make-up of the surrounding community.	Targeted recruitment plans effectively recruit and retain traditionally underrepresented students in percentages aligned with the make-up of the surrounding community.	Targeted recruitment plans effectively recruit and retain traditionally underrepresented students, including those who face academic, language, and other learning barriers.
	Behavioral and academic selection criteria routinely exclude students from underrepresented groups, including those with academic, language, and other learning challenges.	Behavioral and academic selection criteria tend to exclude students from underrepresented groups, but some efforts are made to override criteria to include diverse students.	Behavioral and academic selection criteria are minimized. Diverse students are selected.	Selection criteria include only measures of student interest in STEM fields and the STEM program in particular.
	Formative data are used to determine whether students are struggling, but little is done to respond to individual student needs.	Formative data are used to prescribe systematic re-teaching and intervention outside regular instruction (e.g., tutorials).	Formative data are used to prescribe systematic re-teaching and intervention, during and outside regular instruction.	Diagnostic and formative data are used to predict student challenges and to design personalized instruction.
	The curriculum is designed for on grade-level students. Limited differentiation suggestions are tangential to core instruction.	Curriculum accommodates learning differences to some extent. Scaffolding and stretch suggestions are included in each lesson.	The curriculum is designed with a wide range of students in mind. Scaffolding, stretch, and varied grouping strategies are built into core instruction.	The curriculum is designed to ensure universal access via Universal Design for Learning principles.
Program Evaluation	Evaluation of the program is largely summative in nature.	Only quantitative formative data is reviewed regularly.	More quantitative than qualitative formative data is reviewed regularly.	Equal amounts of quantitative and qualitative formative data is reviewed regularly.
	The focus is on data that may not be clearly and directly impacted by the STEM program.	There is no clear evidence of a connection between the results and subsequent adjustments to activities.	There is a purposeful system for making needed adjustments to the STEM program.	There is a purposeful system for making needed adjustments to the STEM program. An advisory panel of stakeholders provides expert oversight and input.

II. STEM Culture and Design

Goal: Stakeholders must create a learning environment that cultivates the habits of being, mind, and practice associated with STEM.

Key Element for Success	**Example Artifacts**
School-wide activities to build/share culture	Website showcasing student artifacts, classroom and building displays
STEM-focused curriculum offerings	Documentation of STEM course alignment across pathways leading to endorsements and certifications
Partnerships with STEM industries	Evidence of collaborative projects involving partnerships
Community and parental engagement	Satisfaction/interest surveys from students, parents, community, staff, etc.
Student participation in STEM nights, clubs, and competitions	Logs of student participation in STEM nights, clubs, and competitions per teacher

Indicator	Developing	Implementing	Mature	Role Model
Encourages Intellectual Curiosity and Values the Pursuit of Knowledge	Teachers are beginning to provide tools and promote active questioning in learning experiences.	Teachers provide tools and promote active questioning in STEM learning experiences.	Teachers provide tools and promote active questioning in all learning experiences.	Teachers provide tools and promote active questioning in all learning experiences. Students choose their learning paths.
	The school and teachers are creating a safe environment for risk-taking and independent thought that encourages divergent and convergent thinking.	Students display risk-taking and independent thought. Divergent and convergent thinking is encouraged.	The school and teachers create a safe environment for risk-taking and independent thought, encouraging divergent and convergent thinking that is evidenced through student artifacts and presentations.	Risk-taking, independent thought, divergent, and convergent thinking are all evident in student dialogue, artifacts, and presentations.
	Teachers are starting *to* model forms of STEM discourse.	STEM teachers model meaningful forms of STEM discourse.	STEM and core teachers model meaningful and powerful forms of STEM discourse.	All teachers model meaningful and powerful forms of STEM discourse. Students engage in the discourse.
	Students are beginning to present their work to peers.	Students have opportunities to present and defend their work to peers, families, and community.	Students have opportunities to present and defend their work to peers, families, community, STEM industries, and university leaders.	Students regularly present and defend their work to peers, families, community, STEM industries, and university leaders.
Awareness	Students are becoming aware of occupations under the STEM umbrella, and are developing an understanding of what people in the various occupations actually do.	The students are aware of several occupations under the STEM umbrella, and students have a growing understanding of what people in the various occupations actually do.	Students are aware of the rich variety of engaging and rewarding occupations under the STEM umbrella and can articulate their understanding of what people in the various occupations actually do.	Students are aware of the rich variety of engaging and rewarding occupations under the STEM umbrella and can articulate their understanding of what people in the various occupations actually do, and how it applies to their lives.
	The school *is working to* deepen understanding of STEM concepts rather than narrow aspects of specific STEM studies.	The school purposefully deepens the understanding of wider STEM concepts rather than narrow aspects of specific STEM studies.	The school purposefully deepens the understanding of wider STEM concepts rather than narrow aspects of specific STEM studies through providing various STEM experiences for students.	The school purposefully deepens the understanding of wider STEM concepts rather than narrow aspects of specific STEM studies through curriculum, experiences, and explicit college and career access and guidance.

	No scaffolding is used to help students understand STEM concepts.	Scaffolding is *sometimes* used in the classroom to help students understand STEM concepts.	Scaffolding is *often* used in the classroom to help students understand STEM concepts.	Decreasing amounts of scaffolding are needed to help students better understand science, technology, engineering, and math concepts. Hands-on engineering and/or technology provide students with a deeper understanding of math and/or science concepts.
Collaborative	The campus environment does not promote cross-curricular planning among the STEM subject areas.	The campus environment promotes cross-curricular planning and collaboration to facilitate the integration of STEM curriculum.	The campus implements cross-curricular planning and collaboration to facilitate the integration of STEM curriculum.	The campus environment expertly implements cross-curricular planning and collaboration to facilitate the integration of STEM throughout all subject areas and curriculum.
	The school is planning collaboration and is actively seeking partnerships with industry and post K-12 education.	Some collaboration extends beyond the campus to industry and higher education.	Collaboration between the school and industry is evident in the school's curriculum and students' experiences.	Collaboration between the school and industry provides a reciprocal relationship, with the school relying on industry for expertise and the industry relying on the school to teach students the foundational skills necessary to fulfill future workforce needs.
	Subject area teachers are beginning to make connections between their subject area and other STEM subjects.	Cross-curricular planning takes into account the importance of helping students to see the connectivity of all the varied aspects of projects or lengthy units of study.	Cross-curricular planning drives instruction, connecting the varied aspects of projects or lengthy units of study.	Cross-curricular planning is embedded in the instructional program. Students can articulate the importance of cross-curricular connections, and create their own connections.
	The school provides little time and resources to promote collaboration.	The school sometimes provides time and resources to promote collaboration.	The school very often provides time and resources to promote collaboration.	Time for collaboration is embedded in the master schedule and is an integral part of the instructional program. Specific resources are provided to promote collaboration.
Experiential in Nature	The school is beginning to provide opportunities for hands-on or other experiential opportunities in STEM classes.	Students have multiple opportunities for hands-on or other experiential opportunities that solidify connections with STEM subject areas.	Students often have opportunities for hands-on or other experiential opportunities that solidify connections with STEM subject areas and professions.	Instruction is based on experiential opportunities. Students apply these connections to STEM subject areas and professions.
	Teachers are beginning to connect basic concepts to experiences and their underlying principles.	Students understand basic concepts and the connections between experiences and underlying principles.	Students understand basic concepts and make connections between experiences and underlying principles.	Students understand basic concepts and make connections between experiences and underlying principles. They can then apply those principles to other concepts.
	The school is beginning to provide time and resources for STEM experiences.	The school provides time and resources for STEM experiences in the elective classes.	The school consistently provides time and resources for STEM experiences that are emphasized and experienced in the core and elective classes.	The school's time and resource allocations revolve around problem- based or project-based STEM experiences.

Project/Problem-Based	Project-based and problem-based learning is beginning to become a part of the instructional practice.	Project-based and problem-based curriculum, instruction, and assessment are part of the instructional practice in some content areas.	Project-based and problem-based curriculum, instruction, and assessment are part of the instructional practice in all content areas.	Project-based and problem-based curriculum, instruction, and assessment is the instructional method of choice, school-wide.
	Teachers and administrators are beginning to attend professional development and follow research in project-based learning.	Teachers and administrators have attended training and are implementing project-based learning in some subject areas.	Tiers of training based on experience level in project-based learning are required of all teachers on campus.	Teachers and administrators have received advanced training and keep current on the latest in project-based learning research. They provide guidance to other schools in implementing project-based learning.
	Projects are based on grade level standards and are beginning to incorporate different aspects of STEM.	Projects model the kinds of projects and problems that students would later encounter in the professions.	Projects are based on current STEM-related problems. Students work collaboratively to find possible solutions.	Students work collaboratively with higher education and industry on current STEM-related problems/projects to develop solutions.
	Teachers are beginning to create project- based and problem-based lessons to assess learning in STEM (science, technology, engineering, and math) areas.	Teachers are implementing project- and problem-based lessons to assess learning in one STEM area.	Teachers are implementing project- and problem-based lessons to assess learning that combines two or more STEM areas.	Teachers are implementing project- based and problem-based learning to assess learning that combines two or more STEM areas, 21st Century Skills, and other non-STEM areas.
	Teachers rarely consult subject matter experts and invite guest speakers to further enrich units of study.	Teachers sometimes consult subject matter experts and invite guest speakers to further enrich units of study.	Teachers often consult subject matter experts and invite guest speakers to further enrich units of study.	Teachers very often consult subject matter experts and invite guest speakers to further enrich units of study.

III. STEM Teaching and Learning

Goal: The instructional expectations are organized around problem-based and project-based learning with clearly defined learning outcomes for students and teachers. Learning addresses state, national, and global standards, college and career readiness standards, and industry expectations.

Key Element for Success	**Example Artifacts**
Student tasks are linked to STEM-focused multidisciplinary teams and applications of technology.	STEM-focused multidisciplinary teamwork logs and products Project/problem-based assignments that require collaboration and technology application Student work from project/problem-based assignments

Collaborate as a STEM Team	Students are identifying some of the tasks necessary to perform in a STEM-specific subject matter expert (SME) role.	Students identify and analyze what it takes to perform in a STEM-specific subject matter expert (SME) role.	Students identify, analyze, and perform in a STEM-specific subject matter expert (SME) role.	Students identify, analyze, perform, and evaluate in a STEM-specific subject matter expert (SME) role.
	Students share STEM-related ideas with others.	Students share ideas within a STEM-focused team.	Students share ideas and work effectively within a STEM-focused multidisciplinary team.	Students share ideas and work effectively with a STEM-focused multidisciplinary team to achieve a common goal.
	Students listen to ideas of others.	Students listen and are receptive to ideas of others.	Students listen and apply ideas of others.	Students listen and build upon ideas of others.
	Students explore career opportunities that exist within at least two different STEM fields.	Students identify career opportunities that exist in a variety of STEM fields.	Students analyze career opportunities that exist in a variety of STEM fields.	Students evaluate career opportunities that exist in a variety of STEM fields and their relevance to STEM-focused instruction in the classroom.
Apply Technology Strategically	Students are exploring possible technology that could be used to develop problem solutions or construct answers to complex questions.	Students identify and understand how technologies could be used to develop problem solutions or construct answers to complex questions.	Students identify, understand, and apply technologies needed to develop solutions to problems or construct answers to complex questions.	Students identify, understand, apply, and create technologies needed to develop solutions to problems or construct answers to complex questions.
	Students are beginning to understand the limits, risks, and impacts of technology and refer to these concepts correctly in their discussions.	Students identify several of the limits, risks, and/or impacts of technology.	Students analyze the limits, risks, and/or impacts of technology.	Students evaluate the limits, risks, and impacts of technology.
	Students are beginning to explore responsible/ethical uses of technology.	Students identify responsible/ethical uses of technology.	Students engage in discussions about responsible/ethnical uses of technology.	Students determine responsible/ethical uses of technology.
	Students are beginning to explore ways of improving or creating new technologies that extend human capability.	Students explore and identify specific ways of improving or creating new technologies that extend human capability.	Students explore, identify, and begin to improve or create new technologies that extend human capability.	Students improve or create new technologies that extend human capability.

Instrumentation	Professional development (PD) offerings are limited to only the mandatory professional development required for targeted district programs.	Teachers are empowered to identify tools that allow them to target professional development to best suit their content knowledge and pedagogy needs.	Teachers are empowered to adapt tools that allow them to target professional development to best suit their content knowledge and pedagogy needs.	Teachers are empowered to develop tools that allow them to target professional development to best suit their content knowledge and pedagogy needs.
		Professional development offerings are tailored to the needs of the campus but not to individual teachers.	Professional development offerings are tailored to the needs of the campus and the individual needs of a core group of teachers.	Professional development offerings are tailored to meet the needs of each teacher.
Context-Relevant	Professional development topics connect relevant content to instructional strategies that challenge students.	Professional development topics connect relevant content to instructional strategies that challenge students to think critically.	Professional development topics connect relevant content to instructional strategies that challenge students to think critically and innovate.	Professional development topics connect relevant content to instructional strategies that challenge students to think critically, innovate, and invent to solve real-world, contextual problems.
	Topics for PD are rarely teacher-driven and inquiry-based.	Topics for PD provide teacher-driven and inquiry-based teaching strategies.	Topics for PD are primarily teacher-driven and inquiry-based teaching and learning strategies.	Topics for PD are consistently teacher-driven and inquiry-based to encourage teachers to implement, reflect, discuss, and learn in the same manner as students.
Collaboration	Teachers and administrators *are planning* interactions with teachers and administrators from other STEM campuses to seek implementation ideas.	Teachers and administrators *occasionally* interact with teachers and administrators from other STEM campuses to share best practices.	Teachers and administrators frequently interact with teachers and administrators from other STEM campuses to stay current and share best practices.	Teachers and administrators *continuously* interact with teachers and administrators from other STEM campuses to stay current and share best practices and to create a vertical alignment of STEM programs. Individual teachers are skilled instructors.
	Teachers are beginning to work together to improve the learning climate and instruction in the school.	Teachers occasionally work together to improve the learning climate and instruction in the school.	Teachers frequently work together to improve the learning climate and instruction in the school.	Teachers *continuously* work together to improve the learning climate and instruction in the school.

IV. STEM Professional Development

Goal: Key elements of a well-rounded professional development program must include opportunities for experiential learning, researching, and frequent reflecting upon one's practice.

Key Element for Success	Example Artifacts
Reflective practice as a campus and as individuals Learning and professional development is a continuous pursuit and is collaborative in nature. Teachers who engage in real-world, STEM experiences are capable of creating deeper STEM learning experiences. Partnerships with STEM employers to offer field experiences to teachers	Research articles or briefs Videos of instructional practice

Indicator	Developing	Implementing	Mature	Role Model
Modeling	A plan is in development to engage teachers in project-based learning experiences.	Teachers meet to engage in and model project-based learning with other teachers in STEM subject areas.	Teachers meet to engage in and model project-based learning for their campus community.	Teachers meet to engage in and model project-based learning for those beyond their campus community.
Field Experience	Although teachers do not currently engage in real-world STEM experiences through externships or intensives currently, externship and intensive partnerships are being explored.	Some teachers engage in real-world STEM experiences through externships or intensives once a year.	All teachers engage in real-world STEM experiences through externships or intensives once a year.	All teachers engage in real-world STEM experiences through externships or intensives twice-yearly or more.
Reflection and Continuous Improvement	Teacher and administrators are beginning to reflect on their practice and use of professional development.	Teachers and administrators occasionally reflect on their practice, professional development, and on research to improve their practice.	Teachers and administrators frequently reflect on their practice and use of insights gained through field experiences, professional development, and research to improve it.	All teachers and administrators consistently reflect upon their practice and discuss both qualitative and quantitative data to further refine and enrich the school experience for their students. Teachers are critical action researchers and receive meaningful PD that enables them to improve their practice.
	Teachers and administrators are beginning to reflect on how classroom teaching and learning effectively contribute to the school's current STEM program.	Teachers and administrators reflect on how classroom teaching and learning effectively contribute to the school's larger STEM vision and expectations.	The vision and expectations for growth and development of the STEM program are clearly articulated. This may include the creation of specific tools, data, and PD that more holistically examine the pervasiveness of STEM campus-wide.	The vision for the STEM program is frequently revisited and updated to serve current and future needs. The vision development includes a plan that involves multiple stakeholders to implement, revise, and improve the STEM program as it constantly evolves.

V. STEM Alliances

Goal: STEM education programs must actively seek out community partnerships and resources to connect student learning to local and larger economic trends.

Key Element for Success	Example Artifacts
Students should be exposed to educational and career pathway opportunities to further develop and utilize their STEM skills and knowledge.	MOU's and/or contracts with industry and university partners Teacher externship plans and sign-in sheets (Pictures and videos of the experiences) Curriculum documents that include industry/university-infused lesson templates Plans and rosters for student internships and field lessons with university and industry partners (Pictures and videos of the experiences) Stakeholder advisory role is documented through agendas, sign-in sheets, and planning documents.

Indicator	Developing	Implementing	Mature	Role Model
Industry	School stakeholders have identified a campus STEM partnership leader to connect with STEM industry partners and to establish a STEM alliance.	The STEM partnership lead coordinates regularly scheduled STEM Program Advisory Committee meetings to strengthen industry partnerships and enhance industry outreach opportunities to advance defined common goals.	Industry professionals are part of the STEM Program Advisory committee and provide external industry-based experiences for students on an ongoing basis.	Industry professionals are an integral part of the STEM program: serving on a STEM advisory board, providing external experiences, providing in-kind donations and funding assistance for STEM based activities/projects.
Higher Education	Some students can articulate the value of post-secondary STEM study and identify at least one post-secondary STEM option.	Most students can articulate the value of post-secondary STEM study and identify at least one post-secondary STEM option.	Many students can articulate the value of post-secondary STEM study and identify multiple post-secondary STEM options.	Nearly all students can articulate the value of post-secondary STEM study and identify multiple post-secondary STEM options aligned with their specific career interests.
	Some students can articulate a general understanding of the post-secondary admission process and plan to apply.	Most students can articulate a general understanding of the post-secondary admission process and plan to apply.	Many students can describe the steps of post-secondary admission and have a plan to apply to specific STEM higher ed. programs.	Nearly all students are actively engaged in preparing for post-secondary admission at specific STEM higher ed. programs.
	Some students articulate an awareness of the non-cognitive skills consistent with college persistence (such as self-advocacy, organization, self-motivation, and determination).	Some students demonstrate the development of non-cognitive skills consistent with college persistence.	Many students demonstrate the development of non-cognitive skills consistent with college persistence.	Nearly all students demonstrate the development of non-cognitive skills consistent with college persistence.
	Students' exposure to post-secondary education providers is limited to targeted recruitment visits and/or general information sharing.	Some students have multiple opportunities to interact with post-secondary providers and receive individual attention and support.	Many students have multiple opportunities to interact with post-secondary providers and receive individual attention and support aligned with their career aspirations.	Nearly all students have multiple opportunities to interact with post-secondary providers and receive individual attention and support aligned with their career aspirations.
	The STEM program may use off-the-shelf curriculum materials or training prepared	The STEM program benefits from a post-secondary partnership that yields some assistance with curriculum, teacher	The STEM program benefits from a two-way post-secondary partnership, evident in curriculum, teacher development, technical assistance,	The STEM program benefits from systematic two-way post-secondary partnerships, evident in curriculum, teacher development, technical assistance,

	by post-secondary STEM institutions.	development, technical assistance, or resource provision.	and/or resources needed to build a high-quality STEM program.	and resources which have been tailored to the needs of the program.
Stakeholders	The school takes steps to inform some stakeholders (students, teachers, administrators, parents, and academic, community, and appropriate industry members) of the STEM program. Little feedback or input is solicited.	The school takes steps to inform stakeholders of the STEM program and seeks feedback and input. Little evidence that input or feedback is processed systematically.	The school involves stakeholders in advisory functions and as assistants in the implementation of the program.	The school involves stakeholders as true active partners in the implementation of the program. An active advisory group is in place.
Vertical Alignment of STEM Programming	The school has formulated a plan to collaborate with other district STEM programs that will assist school stakeholders in developing a line of sight for the district's STEM program progression.	The school has to some extent, implemented the plan and is actively engaged with several district STEM programs in a collaborative effort to increase school stakeholder awareness of the district's STEM program progression.	The school has implemented the plan and is a participating member of an established network of district STEM programs that have some degree of vertical collaboration.	The school has fully implemented the plan and is a vital member of a well-established district-wide network of STEM programs that have well-established methods of effective vertical collaboration.
	School stakeholders are aware of possible connections to post-secondary STEM education and STEM industry.	School stakeholders are beginning to partner with post-secondary STEM educators, and make connections with STEM industry.	School stakeholders partner with post-secondary STEM institutions and STEM industry.	School stakeholders partner and collaborate with post-secondary institutions and industry to continuously develop and improve the STEM pipeline between K-12, post-secondary education, and industry.
	A plan is in place to increase student retention and vertical matriculation in the district's STEM programs.	Current STEM students are beginning to matriculate to next level district STEM programs.	Many of the school's current STEM students matriculate to next level district STEM programs.	The majority of the school's current STEM students matriculate to next level district STEM programs.
	High school STEM students are becoming aware of STEM opportunities in post-secondary education and industry.	High school STEM students are somewhat aware of STEM opportunities in post-secondary education and industry.	High school STEM students are well aware of and can articulate STEM opportunities in post-secondary education and industry.	High school STEM students are fully aware of and actively pursuing STEM opportunities in post-secondary education and industry.