



Tennessee STEM School Designation Application

Approved April 24, 2017
Revised: June 2018

Tennessee STEM School Designation Process

Mission

To promote rigorous STEM-related learning opportunities for all students that lead to postsecondary achievement and high quality careers.

Vision

To advance Tennessee as the leading state in STEM education, developing a workforce able to compete and succeed in the current and emerging global economy.

Purpose:

STEM education is a unique approach to teaching and learning that fosters creativity and innovative thinking in all students. STEM is focused on building critical and creative thinking and analysis skills by addressing how students view and experience the world around them. Strong STEM teaching and learning opportunities rest on inquiry-, technology-, and project-based learning activities and lessons that are tied to the real world. STEM education is a diverse, interdisciplinary curriculum in which activities in one class complement those in other classes. In the STEM classroom, robust partnerships reach beyond the walls of the school to include higher education and business partners in real-world lessons. STEM education is one of the most effective tools we possess to prepare Tennessee students for tomorrow's workforce and success in college and career.

The Tennessee STEM School Designation was developed to provide a "roadmap" for schools to successfully implement a STEM education plan at the local level. The tools and resources created define the attributes necessary for a school to create a comprehensive STEM learning environment for its students. A school that receives Tennessee STEM School Designation will be recognized by the Tennessee Department of Education for its use of STEM teaching and learning strategies and serve as a model from which other schools may visit and learn. Designated schools will also be invited to share promising practices at the annual Tennessee STEM Innovation Summit and become a member of Tennessee STEM Innovation Network's group of schools. All K-12 schools serving students in Tennessee are eligible.

Application Process:

- Step 1:** The school should perform a self-evaluation using the STEM School Self-Evaluation Rubric (located within this document) and submit the completed self-evaluation to the Tennessee STEM Designation Review Team.
- Step 2:** A representative from the Tennessee STEM Designation Review Team will contact you to schedule an initial conversation (i.e., phone call, Skype, or in-person visit).
- Step 3:** The school will make adjustments based on recommendations provided by the representative prior to completing the full application.
- Step 4:** The school will complete the full application and submit to the Tennessee STEM Designation Review Team representative.
- Step 5:** Site visit to the school from the Tennessee STEM Designation Review Team.
- Step 6:** Upon completion of the site visit, the Tennessee STEM Designation Review Team will review your application and compare it with the evidence and supporting documentation from the site visit.
- Step 7:** Notification of Tennessee STEM Designation Review Team's decision.

Redesignation:

All designated STEM schools will be expected to reapply for status every five (5) years.

Application for STEM School Designation

School Name: Tennessee STEM School Sample Application
Address:
City and Zip:
School District:
STEM Contact:
Phone # and Email:
Total Student Enrollment:
Total Student Enrollment in STEM:

Introduction:

Describe the characteristics of your STEM school differentiating it from traditional schools (500 words max). In addition, provide letters of support for application from the principal, superintendent, and business partner.

[Superintendent's Letter of Support](#)

[Principal's Letter of Support](#)

[Community Partner Letter of Support](#)

Introduction for STEM Designation

Describe the characteristics of your STEM school differentiating it from traditional schools (500 words max).

[Document Related to School's Vision & Mission](#)

Infrastructure

Attribute 1.1 STEM Action and Sustainability Plan

Provide a written document demonstrating your plan of action for implementing and sustaining STEM education within your school.

Please link your school's action plan here. The STEM Action and Sustainability Plan below may be used.

[STEM Action and Sustainability Plan](#)

Attribute 1.2 STEM Leadership Team

Name	Email	Role

Please link one-three rosters or meeting agendas here.

Attribute 1.3 STEM Leadership Team Professional Development

List all the professional development sessions the leadership team has attended that addressed STEM education issues and how to assist the implementation of STEM education within the school.

Professional Development Session	Describe Best Practices of STEM Education	Date and Length of PD	Faculty Members in Attendance

Please link one-three leadership team professional development artifacts here.

Attribute 1.4 School Environment

How are your classrooms and the school set up to facilitate student collaboration, exploration, and project-based work? (200 words max)

Provide a narrative and link one-three artifacts exhibiting your school environment here.

Attribute 1.5 School Schedule

Provide a copy of your school schedule that demonstrates collaboration time for teachers to plan within the school day, as well as collaboration time for students to work on project work.

[School Schedule](#)

Curriculum and Instruction

Attribute 2.1 Project-based Learning

Describe the STEM projects your students participate in.

STEM Project	Description	Grade Level/Number of Students Completing Project
Wind Energy PBL	School-wide	School-wide, 860 Students
6th Grade Hydroelectricity PBL	6 th grade Renewable Resources Unit	6 th grade, 130 Students

Link PBL units into the chart above.

Attribute 2.2 Engineering Design Process and Design Thinking Process

How do teachers integrate engineering design/design thinking within their instruction? (300 words max)

Provide a narrative and link one-three artifacts exhibiting how you integrate engineering design/design thinking here.

Attribute 2.3 Quality of Technology Integration

Describe how technology is integrated within lessons. (300 words max)

Provide a narrative and link one-three artifacts exhibiting quality technology integration here.

Attribute 2.4 Exploring STEM Careers

Describe the learning experiences that provide students information about STEM careers. (200 words max)

[STEM speaker & field trip schedules](#)

Provide a narrative, and link one-two additional artifacts exhibiting STEM career exposure here.

Attribute 2.5 College and Career Readiness Skills

Describe integration and implementation of 21st Century Skills in instruction and student opportunities. (200 words max)

Provide a narrative, and link one-three artifacts exhibiting how your school integrates 21st Century Skills within their instruction here.

Attribute 2.6 Integrity of the Academic Content (Including Cognitively Demanding Work)

Describe how the STEM learning experiences provided by your school has integrated the curriculum to align to state standards and STEM initiatives and provides cognitively challenging work. (300 words max)

Provide a narrative and link one-three artifacts exhibiting how the school's curriculum and STEM initiatives provide cognitively challenging work.

Attribute 2.7 Enrichment Learning Activities

List and describe extended learning opportunities embedded within or outside of the school day in which students participate.

Program	Description	Grade level/Number of Students Participating
Ozobots	Coding	K-5, 46 students
TSA	Critical Thinking, Problem Solving, Teamwork	Grades 6-8, 24 students

Link one-three artifacts exhibiting extended learning opportunities for students.

Professional Development

Attribute 3.1 Quality STEM Professional Learning

List all the professional development opportunities and explain how the learning aligns with the STEM initiatives described in the school’s STEM Action Plan.

Professional Development	Description of Alignment	Dates and Length of PD	Faculty Members in Attendance
Grades 6-8 – all faculty TSIN STEM Attributes Training	Incorporate PBL Enhance STEM Learning for All Integrate STEM Instruction	July 2017 3 Hours	Please link sign in sheet or other artifacts here.

Grades K-5 – PBL Training	PBL framework and planning	October 2017 45 Minutes	Please link sign in sheet or other artifacts here.

Attribute 3.2 Designing PBLs

Describe how the PBL learning activities designed by your faculty embeds state standards and 21st Century Skills, integrates content areas, and is designed to best meet the needs of your student population. Attach an exemplar STEM curricular module within in the appendices. (350 words max)

Provide a narrative, and link one-three artifacts exhibiting how the PBL learning activities embed state standards, 21st century skills, and is personalized to meet the needs of your school and community here.

Achievement

Attribute 4.1 Performance Assessments

Describe the metrics you use to evaluate the effectiveness of your STEM program. (250 words max)

Provide a narrative, and link one-three artifacts exhibiting how your school evaluates the effectiveness of your STEM program here.

Attribute 4.2 Accountability (Data)

Outside of state standardized assessments, what else does your school use to assess students? How do these assessments drive instruction? (300 words max)

Provide a narrative, and link one-three artifacts exhibiting how your school assess student performance and modify instructional practices here.

Community and Postsecondary Partnerships

Attribute 5.1 Partners Support Instruction

List community, business, and industry partners and their roles. Provide letters of support from three partners describing how they have guided STEM programming.

[Community Partner 1 Letter of Support](#)

[Community Partner 2 Letter of Support](#)

[Community Partner 3 Letter of Support](#)

Partner Organization	Contact	Role
University of Memphis Groundwater Institute		STEM Speaker, Facilitates groundwater activities with 6 th grade students 1x per quarter.

Attribute 5.2 Work-based Learning

List student involvement in work-based learning experiences such as internships, mentorships, work-study, apprenticeships, job shadow, career fair, service-based learning, etc.

Work Based Learning	Description/Location	Grade Level/Number of Students
Conservation Club	Playground, surrounding school grounds Managing items such as lost and found, trash, greenhouse, and recycle items.	5 th grade, 30 students
Challenger STEM Learning Center	Design and develop new content areas to enhance mission scenarios for the STEM Challenger Learning Center	11 th grade, 15 students

***High School ONLY**

Attribute 5.3 Postsecondary Opportunities

List college courses or career training credit opportunities provided by your school.

Name of Course or Training	Description	Grade Level/Number of Students

Online Courses

List online courses that prepare students for college and career training. (These courses do not have to provide college or career credit.)

Name of Course	Description	Grade Level/Number of Students