

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



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.

**TO BEGIN YOUR JOURNEY ON THE
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CARNEGIE STEM EXCELLENCE PATHWAY

