



STEM IMPLEMENTATION CONTINUUM

Level 4

Level 3

Level 2

Level 1

In addition to all of Stage 3:

- Deep understanding of multiple aspects of STEM process
 - Regular collaboration among teams of teachers on STEM
 - Multiple STEM clubs/team and enrichment opportunities for students
 - Most/All students do science fair
 - Active & Sustained partnerships with a variety of community, business, &/or higher ed partners
 - Students engage in rich science and math instruction which incorporate science practices and standards of mathematical practice.
 - Current science & math standards are tightly aligned to singular STEM challenges that integrate science, math, and/or technology
 - Students design solutions to solve a problem
 - Follow engineering design process
 - Challenges are rigorous
 - Multiple trials to collect data to evaluate the designs
 - Redesign process based on data
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- Teachers regularly collaborate to reflect on STEM practices and methods of improvement.
 - STEM Challenges are:
 - Broader in scope and scale – building over an entire 9 weeks or semester or year
 - Require the application of multiple standards from each content area
 - Require students to:
 - be producers of digital media/resources/data
 - to argue from evidence
 - engage in deep data analysis
 - understand & articulate how the math and science they are learning are related to the real world
 - collaborate with community partners or people in STEM fields
 - communicate their findings with peers or the community
 - think critically at school and at home

- Awareness of STEM
- STEM learning is limited to a single class, course, or program
- Students “DO” Science
- Basic Math and Science integration
- Basic technology proficiency

- Understanding of STEM
- Students do labs and experiments frequently
- Collaboration with a couple of teachers in the school regarding STEM
- Partnerships with community, business & higher education
- STEM Clubs – Science Olympiad, Robotics, Math Team
- Science Fair for interested students
- Students are engaging in engineering challenges (these are loosely or topically aligned to science or math standards)
 - Students build or construct items
 - Follow Engineering Design Process
 - Challenges lack rigor, contain elements of “fluff”
 - Limited data collection/revision

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Apply for AdvancED STEM or GA STEM Cert.