STEM Principles for Elementary STEM Classrooms

In Knox County Schools, all STEM classes must include a culture of inquiry that exists among students, teachers, and administrators through the implementation of 21st Century skills/employability skills. (4C's: Critical thinking, Creativity, Collaboration, and Communication). STEM teachers engage in annual professional development with the STEM Department, TSIN, and STEM Hub.

Additionally, a STEM class shall include the following components:

- Lessons or series of lessons highlight industry and career.
- Engineering Design Process or Design Thinking Process in most lessons and posted in the room for frequent reference.
- Instruction has quality technology integration by using a variety of technology tools with a clear STEM purpose.
- Lessons include problem-based learning that engages students in real-world content, allowing multiple solutions and opportunities for student cooperation by utilizing STEM knowledge and skills.
- Academic content in science and math is referenced or the focus of the majority of lessons.
- Goal setting and self-evaluate/peer evaluate progress in STEM competencies.
- Participate in teacher to teacher feedback about lessons and classroom visits. This can be within the school to support content teaching or across the district with other STEM classrooms.
- Engage in industry classroom visits and virtual field trips by highlighting outside STEM expertise.
- Classrooms are designed for collaborative work and additional work spaces are identified for student collaboration.

TSIN STEM Designation Rubric was the resource for this document.
Written 5/1/2021