CLEVELAND METROPOLITAN SCHOOL DISTRICT
PreK-8 STEM SCHOOL INITIATIVE

1. *We embrace a culture of discovery, design & communication*

Design Features	*Model Attributes*
1.1 **Inquiry and creativity** are valued throughout the school.	• School leaders and teachers foster a culture of inquiry. • Teachers employ inquiry-based methodologies. • Student creativity is nurtured and encouraged through voice and choice.
1.2 A **design process** is evident in all phases of the school experience, and students and teachers are encouraged to be designers of their own learning.	• Teachers develop learning experiences following an iterative design process. • Teachers utilize and regularly refer to an iterative design process throughout capstone experiences • Students use an iterative design process to guide their learning and metacognition.
1.3 **Technology is integrated** throughout the instructional environment as a tool to enhance teaching and learning.	• The school has an active technology plan in place (inventory, maintenance, training, integration, etc.). • Teachers design learning experiences with multiple technology tools in mind. • Students have access to multiple technology tools to enhance their learning. • Blended learning is used effectively for students' additional support and enrichment. • Mobile Fab Lab is integrated in project design and capstone experiences.
1.4 Teachers emphasize **assessment *for* learning** and support students to learn through **iterative design**.	• Formative assessments are used regularly and provide a supportive culture of feedback. • All assessments are aligned to standards for student understanding and demonstration of learning. • Teachers use rubrics to clearly articulate learning intentions and criteria for success in advance of learning. • Teachers collaboratively review evidence of student work and norm expectations using rubrics. • Students are given multiple options and opportunities to demonstrate evidence of learning. • Students demonstrate learning through multiple drafts and iterations based on teacher and peer feedback. • Some assessments require students to demonstrate knowledge and skill in performance tasks.
1.5 Students share and celebrate their work through presentations and **exhibitions of learning**.	• Students communicate their learning in evidence-based discussions. • Students regularly present learning to varied audiences (peers, school, families, larger STEM community). • The school hosts two exhibitions of learning in the winter and spring. • Teachers participate in CMSD STEM showcases in the winter and spring. • The school identifies student representatives at each grade level to present in CMSD STEM showcases in the winter and spring. • Students maintain a portfolio of work (journals, artifacts, drafts, etc.). • The school highlights student and teacher accomplishments through website, publications and newsletters.

2. We address real-world issues through authentic experiential learning approaches

Design Features	Model Attributes
2.1 Most learning occurs in a **blended, trans-disciplinary environment**.	• Learning is defined by capstone experiences that integrate standards across multiple content areas. • Academic content emphasizes 'big ideas', essential questions and context for learning. • Teachers implement at least two capstone experiences each school year using the capstone project template.
2.2 **Research and standards-based instructional materials** are used to support planning, implementation, assessment and revision.	• Teachers implement the adopted research-based instructional materials for math and science. • Teachers plan and implement academic content rooted in tasks with high-levels of cognitive demand. • Teachers regularly review student data to make informed revisions to curriculum.
2.3 **Discretionary funds and other resources** are aligned and allocated to support the STEM program.	• SBB team vets all STEM-based budget decisions (materials, supplies, field experiences, etc.). • Resource allocation and funding decisions align to CMSD preK-8 STEM Design Principles.
2.4 Scheduling is **flexible** and customized based on teaching and learning needs.	• School schedules can be adjusted daily and weekly. • Class periods are not solely defined by subject area or fixed length of time. • Project time is available for student participation in capstone experiences.
2.5 There is **dedicated time for professional development and support**.	• Teachers and schools leaders fully participate in all CMSD Network STEM professional development offerings. • School-based PD is aligned to the CMSD pre K-8 STEM Framework and TDES. • School leaders and colleagues hold teachers accountable for PD implementation. • Teachers work with schools leaders to identify additional PD needs and are supported to attend conferences and receive additional professional support. • Teachers receive individualized and differentiated instructional support based on professional growth plans per TDES.

3. We work and learn together to foster a collaborative environment.

Design Features	Model Attributes
3.1 Students **learn by doing**, sharing and connecting to others.	• Students learn in collaborative, heterogeneous groups and are accountable for interpersonal communication and teamwork. • Students engage in authentic, real-world tasks and experiences. • Students are individually accountable for their learning. • Students are supported through advisory groups.
3.2 School leaders & teachers **plan together** and share best practices.	• Teachers participate in individual, grade-level and school-wide planning, and document objectives, decisions and next steps. • School leaders and colleagues hold teachers accountable for common planning. • Best practices are openly shared throughout the CMSD preK-8 STEM Network.
3.3 A **distributive leadership** model is evident.	• There is an evident culture of shared decision-making. • All school data is used as part of a continuous improvement cycle. • The schools provides opportunities and pathways for continuous leadership development. • The school supports Lead STEM Practitioners (LSPs) to advance STEM experiences at the school and in the CMSD pre K-8STEM Network. • The school implements a rotating student STEM ambassador program.
3.4 The school engages **partners** in an array of opportunities to support authentic STEM experiences.	• The school participates in CMSD pre K-8 STEM Network-wide partner commitments (Zoo & GLSC). • Teachers actively seek partner support for capstone planning and implementation. • The school identifies a partner liaison to cultivate and maintain partnerships. • Partners participate on panels for students' exhibitions of learning. • The school works with partners to support mentorships, project design, PD and service learning.
3.5 **Family engagement** is nurtured and supported.	• Families are viewed as active members of the school community and are included in decisions. • Families support learning in the classroom, act as chaperones for field experiences and are encouraged to participate fully in their children's education. • The school hosts regular STEM family events and educational workshops.
3.6 **Field and place-based opportunities** are integrated into the learning experiences.	• Students engage in authentic, real-world tasks and experiences • Learning opportunities are not limited to the classroom; learning continues outside the classroom. • Place-based learning opportunities are embedded in all capstone experiences. • The school offers STEM clubs and identifies STEM summer programs (robotics, camps, Urban Agriculture, etc.).