Pavilion for Healing Architecture Project

Standards Alignment

ISTE Standards for Students

Standard	How It Applies in This Challenge
1.4 Innovative Designer	Students use Tinkercad and design thinking processes to create resilient, human-centered pavilion concepts that respond to real-world community recovery challenges.
1.5 Computational Thinker	Learners apply spatial reasoning, modular thinking, scaling, and systems thinking as they organize, prototype, and refine architectural solutions.
1.6 Creative Communicator	Students communicate architectural ideas visually through sketches, mood boards, blueprints, annotations, diagrams, and 3D models.
1.7 Global Collaborator	Students collaborate through critique, shared design workflows, and feedback while considering how architecture and design impact communities and environments.

Common Core State Standards (Math)

Standard	How It Applies in This Challenge
CCSS Grade 6 – Ratios & Proportional Relationships	Students use scale, measurement, and proportional reasoning to plan pavilion layouts and architectural elements.
CCSS Grade 7 – Ratios & Proportional Relationships	Learners analyze proportional relationships and apply them to modular systems, circulation, and environmental design challenges.
CCSS Grades 6–8 – Geometry	Students solve real-world design problems involving area, volume, surface area, spatial reasoning, and architectural planning.

NGSS Science & Engineering Practices

Standard	How It Applies in This Challenge
Developing and Using Models (SEP 2)	Students create and refine 3D pavilion models to explore structure, circulation, environmental response, and modular construction systems.
Constructing Explanations and Designing Solutions (SEP 6)	Students design, test, critique, and revise pavilion concepts that address community recovery, accessibility, sustainability, and

	resilience goals.
Obtaining, Evaluating, and Communicating Information (SEP 8)	Students research disaster recovery examples, evaluate design precedents, and communicate design intent through presentations, diagrams, and storytelling.

Next Generation Science Standards (NGSS)

Standard	How It Applies in This Challenge
MS-ETS1-1	Students define criteria and constraints for pavilion designs based on environmental, human, and community needs.
MS-ETS1-2	Learners evaluate multiple design solutions using critique, feedback, and resilience-focused criteria.
MS-ETS1-3	Students analyze revisions and testing outcomes to improve pavilion performance and usability.
MS-ETS1-4	Learners develop iterative digital models to strengthen accessibility, environmental responsiveness, and structural organization.
MS-ESS3-3	Students apply scientific and environmental principles to design structures that minimize environmental impact and support climate resilience.

Optional Computer Science Connections

Standard	How It Applies in This Challenge
2-AP-13	Students decompose pavilion systems into modular architectural components such as walls, supports, roofing, circulation zones, and environmental features.
2-AP-16	Learners use loops, repetition, variables, and pattern systems in optional Tinkercad Codeblocks explorations.
3A-AP-17	Students iteratively refine pavilion systems and analyze how modifications impact structure, usability, and resilience.
3A-IC-24	Learners evaluate how digital design and architecture can positively impact communities recovering from disaster or environmental change.