Grade 3

3.3.3.C Earth and Space Sciences: Earth and Human Activity

Students who demonstrate understanding can *make a claim supported by evidence about the merit of a design solution that reduces the impacts of a weather-related hazard.*

Clarifying Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
Engaging in Argument From Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). • Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.	**Natural Hazards** • A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.	**Cause and Effect** • Cause and effect relationships are routinely identified, tested, and used to explain change. ***Connections to Engineering, Technology, and Applications of Science*** **Influence of Engineering, Technology, and Science on Society and the Natural World** • Engineers improve existing technologies or develop new ones to increase their benefits (e.g., better artificial limbs), decrease known risks (e.g., seatbelts in cars), and meet societal demands (e.g., cell phones). ***Connections to Nature of Science*** **Science is a Human Endeavor** • Science affects everyday life.

Pennsylvania Context: Examples of Pennsylvania context include weather-related hazards, including but not limited to flooding, tropical storms, hurricanes, winter storms, lake effects, and tornadoes that occur in Pennsylvania at varying frequencies.

PA Career Ready Skills: Identify multiple ways to solve conflicts and practice solving problems.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.01.02.02.c: Evaluate the importance of technology use and how it impacts AFNR systems.
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 2.3.A. Human-environment interactions: Learners identify ways that people depend on, change, and are affected by the environment.
PA Core Standards: ELA	CC.1.4.3.V: Conduct short research projects that build knowledge about a topic. CC.1.5.3.A: Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others' ideas and expressing their own clearly.
PA Core Standards and Practices: Math	MP.2: Reason abstractly and quantitatively. MP.3: Construct viable arguments and critique the reasoning of others. CC.2.4.3.A.2: Tell and write time to the nearest minute and solve problems by calculating time intervals.
PA Standards: Social Studies	7.4.3.A: Identify the effect of the physical systems on people within a community.
Educational Technology (ISTE)	1.4. Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Technology and Engineering (ITEEA)	STEL-7M: Evaluate the strengths and weaknesses of existing design solutions, including their own solutions.