



Grades 3–5

3.4.3-5.B Environmental Literacy and Sustainability: Agriculture and Environmental Systems and Resources

Students who demonstrate understanding can *make a claim about the environmental and social impacts of design solutions and civic actions, including their own actions.*

Clarifying Statement: Emphasis is on investigating the short- and long-term consequences or effects of design solutions (i.e., best management practices such as manure management plans, riparian buffers, and wildlife corridors).

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). <ul style="list-style-type: none"> 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. 	Human Impacts on Earth Systems <ul style="list-style-type: none"> Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. Natural Resources <ul style="list-style-type: none"> Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. 	Cause and Effect <ul style="list-style-type: none"> Cause and effect relationships are routinely identified and used to explain change.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to Pennsylvania land use practices such as urbanization, sprawl, transportation, heat, agriculture, waste, energy, recreation, and mining.

PA Career Ready Skills: Identify consequences of a decision to oneself and others prior to action.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.04.02.01.c: Defend or challenge natural resources trends and technologies based upon an assessment of their impact on AFNR systems.
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 3.2.D. Evaluating the results of actions: Learners identify environmental, social, and economic consequences of design solutions and civic actions, including their own actions.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	<p>CC.1.4.3.U: With guidance and support, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.</p> <p>CC.1.4.4-5.U: With some guidance and support, use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.</p> <p>CC.1.4.3.V: Conduct short research projects that build knowledge about a topic.</p> <p>CC.1.4.4.V: Conduct short research projects that build knowledge through investigation of different aspects of a topic.</p> <p>CC.1.4.5.V: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</p> <p>CC.1.4.3.W: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</p> <p>CC.1.4.4.W: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.</p> <p>CC.1.4.5.W: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</p> <p>CC.1.5.3.B: Determine the main ideas and supporting details of a text read aloud or information presented in diverse media formats, including visually, quantitatively, and orally.</p> <p>CC.1.5.4.B: Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p> <p>CC.1.5.5.B: Summarize the main points of written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p> <p>CC.1.5.3-5.A: Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others' ideas and expressing their own clearly.</p>
PA Core Standards and Practices: Math	<p>MP.2: Reason abstractly and quantitatively.</p> <p>MP.4: Model with mathematics.</p> <p>CC.2.4.3.A.4: Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.</p> <p>CC.2.4.4.A.4: Represent and interpret data involving fractions using information provided in a line plot.</p>
PA Standards: Social Studies	5.2.3.A: Identify personal rights and responsibilities.
Educational Technology (ISTE)	1.1. Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.
Technology and Engineering (ITEEA)	STEL-4F: Describe the helpful and harmful effects of technology.