Grades 3–5

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

Students who demonstrate understanding can *analyze how living organisms, including humans, affect the environment in which they live, and how their environment affects them.*

Clarifying Statement: Emphasis is on how plants and animals impact their environment and how their environment impacts them. Examples include how pollinators impact food, plants prevent erosion, and sidewalks/roads change water flow.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. • Analyze and interpret data to make sense of phenomena using logical reasoning.	**Human Impacts on Earth Systems** • 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.	**Cause and Effect** • Cause and effect relationships are routinely identified and used to explain change. **Structure and Function** • Different materials have different substructures, which can sometimes be observed. Substructures have shapes and parts that serve functions.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to Pennsylvania's natural environment, waterways, watersheds, natural ecosystems, and changes (natural and human-caused).

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.02.02.01.a: Identify and summarize the components within AFNR systems (e.g., Animal Systems: health, nutrition, genetics, etc.; Natural Resources Systems: soil, water, etc.).
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 2.1.B. Earth's living systems: Learners identify basic similarities and differences among a wide variety of living organisms. They explain ways that living organisms, including humans, affect the environment in which they live, and how their environment affects them.

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	CC.1.2.3.D: Explain the point of view of the author. CC.1.2.4.D: Compare and contrast an event or topic told from two different points of view. CC.1.2.5.D: Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent. 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. 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. 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. 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.
PA Core Standards and Practices: Math	MP.2: Reason abstractly and quantitatively. MP.4: Model with mathematics. CC.2.4.4.A.4: Represent and interpret data involving fractions using information provided in a line plot.
PA Standards: Social Studies	7.4.3.B: Identify the effect of people on the physical systems within a community.
Educational Technology (ISTE)	1.3. Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
Technology and Engineering (ITEEA)	STEL-4F: Describe the helpful and harmful effects of technology.