Grades 6–8

3.5.6-8.Z Technology and Engineering: Integration of Knowledge, Technologies, and Practices

Students who demonstrate understanding can *analyze how different technological systems often interact with economic, environmental, and social systems.*

Clarifying Statement: For example, a navigation system in a delivery vehicle uses sensors that provide input to the distribution center and sends customers notifications when their products are delivered. If a package is delivered to a wrong address, GPS data can accurately determine the location to which the package was actually delivered.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
Engaging in Argument From Evidence Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s). • Compare and critique two arguments on the same topic and analyze whether they emphasize similar or different evidence and/or interpretations of facts.	**Interaction of Technology and Humans** • Economic, political, social, and cultural aspects of society drive improvements in technological products, processes, and systems	**Systems Thinking** • Uses the systems model to show how parts of technological systems work together. **Attention to Ethics** • Shows an understanding of ways to regulate technologies and the reasons for doing so.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to Pennsylvania water and wastewater facilities and processes.

Pennsylvania Career Ready Skills: Distinguish among various social contexts and how they impact personal feelings.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: Reading and Writing in Science and Technical Areas	CC.1.2.3.G: Use information gained from text features to demonstrate understanding of a text. CC.1.2.4.G: Interpret various presentations of information within a text or digital source and explain how the information contributes to an understanding of text in which it appears. CC.1.2.5.G: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. CC.1.4.3.V: Conduct short research projects that build knowledge about a topic. CC.1.4.4.V: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CC.1.4.5.V: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. 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.
PA Core Standards and Practices: Math	MP.2: Reason abstractly and quantitatively.
Integrated Standards for Science, Environment & Ecology, and Technology & Engineering Standards Grades K–12	N/A