Grades 6–8

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

Students who demonstrate understanding can *demonstrate how knowledge gained from other content areas affects the development of technological products and systems.*

Clarifying Statement: Skills learned in fine arts are used in designing and rendering examples of technological products and systems. Studying the history of technology and engineering provides people with a way to learn from past successes and challenges. A tangible example can be seen as students demonstrate an applied knowledge of Newton's Laws of Motion in the construction, testing, and evaluation of roller coasters, rockets, or dragsters.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 6–8 builds on K–5 experiences and progresses to evaluating the merit and validity of ideas and methods. • Integrate qualitative scientific and technical information in written text with that contained in media and visual displays to clarify claims and findings.	**Optimizing the Design Solution** • The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution.	**Making and Doing** • Exhibits safe, effective ways of producing technological products, systems, and processes. **Optimism** • Critiques technological products and systems to identify areas of improvement.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to manufacturing businesses and industries.

Pennsylvania Career Ready Skills: Identify and evaluate distractors that impact reaching ones' goals.

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	N/A
Integrated Standards for Science, Environment & Ecology, and Technology & Engineering Standards Grades K–12	N/A