



Grades 6–8

3.5.6-8.T Technology and Engineering: Design Thinking in Technology and Engineering Education

Students who demonstrate understanding can *create solutions to problems by identifying and applying human factors in design.*

Clarifying Statement: Students acknowledge that the process of design is influenced by human factors and broaden their ability to identify and apply human factors such as ease of use and ergonomics.

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. <ul style="list-style-type: none"> Communicate scientific and/or technical information (e.g., about a proposed object, tool, process, system) in writing and/or through oral presentations. 	Engineering Design <ul style="list-style-type: none"> Communicate the results of a design process and articulate the reasoning behind design decisions by using verbal and visual means. Identify the benefits of a design as well as the possible unintended consequences. 	Making and Doing <ul style="list-style-type: none"> Exhibits safe, effective ways of producing technological products, systems, and processes.

Pennsylvania Context: N/A

Pennsylvania Career Ready Skills: Identify conflict resolution skills to deescalate, diffuse, and resolve differences.

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	<p>CC.1.2.3.G: Use information gained from text features to demonstrate understanding of a text.</p> <p>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.</p> <p>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.</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>
PA Core Standards and Practices: Math	<p>MP.1: Make sense of problems and persevere in solving them.</p>
Integrated Standards for Science, Environment & Ecology, and Technology & Engineering Standards Grades K–12	<p>3.3.6-8.M: Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.</p>