



**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)  |
|--|---|---|
| <p><b>Obtaining, Evaluating, and Communicating Information</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>Communicate scientific and/or technical information (e.g., about a proposed object, tool, process, system) in writing and/or through oral presentations.</li> </ul> | <p><b>NAEP D.8.10</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> | <p><b>Making and Doing</b></p> <ul style="list-style-type: none"> <li>Exhibits safe, effective ways of producing technological products, systems, and processes.</li> </ul> |

**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)  |
|---|---|
| <p><b>PA Core Standards: Reading and Writing in Science and Technical Areas</b></p>   | <p>CC.1.2.3.G: Use information gained from text features to demonstrate understanding of a text.<br/>                     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.<br/>                     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.<br/>                     CC.1.4.3.V: Conduct short research projects that build knowledge about a topic.<br/>                     CC.1.4.4.V: Conduct short research projects that build knowledge through investigation of different aspects of a topic.<br/>                     CC.1.4.5.V: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.<br/>                     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.<br/>                     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.<br/>                     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><b>PA Core Standards and Practices: Math</b></p>   | <p>MP.1: Make sense of problems and persevere in solving them.</p>  |
| <p><b>Integrated Standards for Science, Environment &amp; Ecology, and Technology &amp; Engineering Standards Grades K-12</b></p> | <p>3.3.6-8.M: Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.</p>   |