



Grades 6–8

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

Students who demonstrate understanding can *illustrate the benefits and opportunities associated with different approaches to design.*

Clarifying Statement: A characteristic of design is weighing the benefits and opportunities associated with the approach a designer selects. It is important to consider these carefully when choosing the final approach to be selected in solving a problem.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
<p>Obtaining, Evaluating, and Communicating Information</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"> Communicate scientific and/or technical information (e.g., about a proposed object, tool, process, system) in writing and/or through oral presentations. 	<p>ETS1.B: Developing Possible Solutions</p> <ul style="list-style-type: none"> Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. 	<p>Optimism</p> <ul style="list-style-type: none"> Critiques technological products and systems to identify areas of improvement.

Pennsylvania Context: N/A

Pennsylvania Career Ready Skills: Analyze various perspectives on a situation.



Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
<p>PA Core Standards: Reading and Writing in Science and Technical Areas</p>	<p>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.</p>
<p>PA Core Standards and Practices: Math</p>	<p>N/A</p>
<p>Integrated Standards for Science, Environment & Ecology, and Technology & Engineering Standards Grades K-12</p>	<p>N/A</p>