



Grades 6–8

3.5.6-8.E Technology and Engineering: Applying, Maintaining, Assessing, and Evaluating Technological Products and Systems

Students who demonstrate understanding can *consider the impacts of a proposed or existing technology and devise strategies for reducing, reusing, and recycling waste caused by its creation.*

Clarifying Statement: Given specific examples in their home or community, middle grade students should be able to consider various options for minimizing or managing resource use (waste) and select or design practical strategies for waste reduction.

Assessment Boundary: N/A

| Science and Engineering Practices (SEP) | Disciplinary Core Ideas (DCI) | Technology and Engineering Practices (TEP) |
|--|--|---|
| <p>Engaging in Argument From Evidence</p> <p>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).</p> <ul style="list-style-type: none"> Respectfully provide and receive critiques about one’s explanations, procedures, models, and questions by citing relevant evidence and posing and responding to questions that elicit pertinent elaboration and detail. | <p>NAEP T.8.3</p> <ul style="list-style-type: none"> Describe and analyze positive and negative impacts on society from the introduction of a new or improved technology, including both expected and unanticipated effects. | <p>Optimism</p> <ul style="list-style-type: none"> Critiques technological products and systems to identify areas of improvement. |

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to waste removal and recycling facilities.

Pennsylvania Career Ready Skills: Make a decision based upon anticipated consequences.

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>MP.1: Make sense of problems and persevere in solving them.</p> |
| <p>Integrated Standards for Science, Environment & Ecology, and Technology & Engineering Standards Grades K-12</p> | <p>N/A</p> |