Science, Technology & Engineering, and Environment Literacy & Sustainability (STEELS)

Grades K–2


Students who demonstrate understanding can demonstrate essential skills of the engineering design process.

Clarifying Statement: Young children identify that there are some essential skills, such as creative thinking, building, and testing, that are required to succeed in technology and engineering design.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)

Constructing Explanations and Designing Solutions
Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Use tools and/or materials to design and/or build a device that solves a specific problem or a solution to a specific problem.

Disciplinary Core Ideas (DCI)

ETS1.B: Developing Possible Solutions
- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people.

Technology and Engineering Practices (TEP)

Creativity
- Learns that humans create products and ways of doing things.

Making and Doing
- Learns to use tools and materials to accomplish a task.

Collaboration
- Learns to share technological products and ideas.

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

Pennsylvania Career Ready Skills: Explain ways to establish relationships that are positive and supportive of others.

Connections to Other Standards Content and Practices

<table>
<thead>
<tr>
<th>Standard Source</th>
<th>Possible Connections to Other Standard(s) or Practice(s)</th>
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| PA Core Standards: Reading and Writing in Science and Technical Areas | CC.1.4.K.U: With guidance and support, explore a variety of digital tools to produce and publish writing or in collaboration with peers.  
CC.1.4.1-2.U: With guidance and support, use a variety of digital tools to produce and publish writing including in collaboration with peers.  
CC.1.4.K.V: Participate in individual or shared research projects on a topic of interest.  
CC.1.4.1-2.V: Participate in individual or shared research and writing projects.  
CC.1.4.K-1.W: With guidance and support, recall information from experiences or gather information from provided sources to answer a question.  
CC.1.4.2.W: Recall information from experiences or gather information from provided sources to answer a question.  
| PA Core Standards and Practices: Math | MP.2: Reason abstractly and quantitatively.  
MP.4: Model with mathematics.  
MP.5: Use appropriate tools strategically. |
| Science, Technology & Engineering, and Environmental Literacy & Sustainability Academic Standards | N/A |