



## Grades K–2

### 3.5.K-2.U Technology and Engineering: Design in Technology and Engineering Education

**Students who demonstrate understanding can** *explain that design is a response to wants and needs.*

**Clarifying Statement:** Young children begin to understand that design is driven by wants and needs. These wants and needs often derive from familiar environments such as home, school, and community.

**Assessment Boundary:** N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
<b>Constructing Explanations and Designing Solutions</b> 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. <ul style="list-style-type: none"> <li>Generate and/or compare multiple solutions to a problem.</li> </ul>	<b>Defining and Delimiting Engineering Problems</b> <ul style="list-style-type: none"> <li>Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> </ul>	<b>Communication</b> <ul style="list-style-type: none"> <li>Learns that humans have many ways to communicate.</li> </ul>

**Pennsylvania Context:** Examples of Pennsylvania context include but are not limited to Pennsylvania's food production industries.

**Pennsylvania Career Ready Skills:** Identify one's own strengths, needs, and preferences.

## Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
<b>PA Core Standards: Reading and Writing in Science and Technical Areas</b>	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. CC.1.5.K-2.A: Participate in collaborative conversations with peers and adults in small and larger groups.
<b>PA Core Standards and Practices: Math</b>	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