



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)
<p>Constructing Explanations and Designing Solutions</p> <p>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.</p> <ul style="list-style-type: none"> Generate and/or compare multiple solutions to a problem. 	<p>ETS1.A: Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> Asking questions, making observations, and gathering information are helpful in thinking about problems. 	<p>Communication</p> <ul style="list-style-type: none"> Learns that humans have many ways to communicate.

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)
PA Core Standards: Reading and Writing in Science and Technical Areas	<p>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.</p> <p>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.</p> <p>CC.1.4.K.V: Participate in individual or shared research projects on a topic of interest.</p> <p>CC.1.4.1-2.V: Participate in individual or shared research and writing projects.</p> <p>CC.1.4.K-1.W: With guidance and support, recall information from experiences or gather information from provided sources to answer a question.</p> <p>CC.1.4.2.W: Recall information from experiences or gather information from provided sources to answer a question.</p> <p>CC.1.5.K-2.A: Participate in collaborative conversations with peers and adults in small and larger groups.</p>
PA Core Standards and Practices: Math	<p>MP.2: Reason abstractly and quantitatively.</p> <p>MP.4: Model with mathematics.</p> <p>MP.5: Use appropriate tools strategically.</p>



**Science, Technology &
Engineering, and
Environmental Literacy &
Sustainability Academic
Standards**

N/A