



Grades K–2

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

Students who demonstrate understanding can *illustrate that there are different solutions to a design and that none are perfect.*

Clarifying Statement: Young children recognize that there is more than one plausible solution to a design challenge.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
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. <ul style="list-style-type: none"> Generate and/or compare multiple solutions to a problem. 	Defining and Delimiting Engineering Problems <ul style="list-style-type: none"> A situation that people want to change or create can be approached as a problem to be solved through engineering. 	Optimism <ul style="list-style-type: none"> Sees opportunities for making technologies better.

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

Pennsylvania Career Ready Skills: Demonstrate respect for the uniqueness of others.

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	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.
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**

3.2.1.A: Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.