



## Grades K–2

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

**Students who demonstrate understanding can** *apply design concepts, principles, and processes through play and exploration.*

**Clarifying Statement:** Design experiences build on young children's natural curiosity, desire to explore, and persistence. Familiar materials, tools, and environments will enhance these experiences.

**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>Use tools and/or materials to design and/or build a device that solves a specific problem or a solution to a specific problem.</li> </ul>	<b>Optimizing the Design Solution</b> <ul style="list-style-type: none"> <li>Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</li> </ul>	<b>Making and Doing</b> <ul style="list-style-type: none"> <li>Learns to use tools and materials to accomplish a task.</li> </ul> <b>Creativity</b> <ul style="list-style-type: none"> <li>Learns that humans create products and ways of doing things.</li> </ul>

**Pennsylvania Context:** N/A

**Pennsylvania Career Ready Skills:** Identify possible behaviors and anticipate reactions in response to a specific social context.

## 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.
<b>Science, Technology &amp; Engineering, and Environmental Literacy &amp; Sustainability Academic Standards</b>	N/A