



## Kindergarten

### 3.2.K.D Physical Science: Energy

**Students who demonstrate understanding can use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.**

**Clarifying Statement:** Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.

**Assessment Boundary:** N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
<p><b>Constructing Explanations and Designing Solutions</b></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"> <li>Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem.</li> </ul>	<p><b>PS3.B: Conservation of Energy and Energy Transfer</b></p> <ul style="list-style-type: none"> <li>Sunlight warms Earth’s surface.</li> </ul>	<p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>Events have causes that generate observable patterns.</li> </ul>

**Pennsylvania Context:** Examples of Pennsylvania context include materials found naturally in Pennsylvania, such as wood from the state’s forests.

**PA Career Ready Skills:** Interact in pro-social ways (e.g., reciprocal conversation, turn taking, sharing) with peers and adults.

### Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.01.02.01.c: Solve problems in AFNR work-places or scenarios using technology.
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 3.1.C. Identifying and critiquing alternative solutions and courses of action: Learners develop plans, including possible design solutions, for addressing selected local environmental issues.
PA Core Standards: ELA	CC.1.4.K.V: Participate in individual or shared research projects on a topic of interest. CC.1.5.K.A: Participate in collaborative conversations with peers and adults in small and larger groups.
PA Core Standards and Practices: Math	MP.5: Use appropriate tools strategically. CC.2.3.K.A.1: Identify and describe two- and three-dimensional shapes. CC.2.3.K.A.2: Analyze, compare, create, and compose two- and three-dimensional shapes.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Standards: Social Studies	5.1.K.E: Demonstrate responsibilities in the classroom.
Educational Technology (ISTE)	1.4. Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Technology and Engineering (ITEEA)	STEL-1C: Demonstrate that creating can be done by anyone.