



Kindergarten

3.2.K.C Physical Science: Energy

Students who demonstrate understanding can *make observations to determine the effect of sunlight on Earth's surface.*

Clarifying Statement: Examples of Earth's surface could include sand, soil, rocks, and water

Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to collect data that can be used to make comparisons. <hr/> <p>Connections to Nature of Science Scientific Investigations Use a Variety of Methods</p> <ul style="list-style-type: none"> Scientists use different ways to study the world. 	<p>Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> Sunlight warms Earth's surface. 	<p>Cause and Effect</p> <ul style="list-style-type: none"> Events have causes that generate observable patterns.

Pennsylvania Context: N/A

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.06.01.01.a: Research and explain the foundational cycles in AFNR (e.g., water cycle, nutrient cycle, carbon cycle, etc.).
Science, Environmental Literacy and Sustainability (NAAEE)	K-4 Strand 1.C. Collecting information: Learners locate and collect information about the environment and environmental topics.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
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.1: Make sense of problems and persevere in solving them. CC.2.1.K.A.3: Apply the concept of magnitude to compare numbers and quantities.
PA Standards: Social Studies	7.3.K.A: Describe how weather affects daily life.
Educational Technology (ISTE)	1.3. Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
Technology and Engineering (ITEEA)	STEL-8A: Analyze how things work.