



Grades K–2

3.5.K-2.BB Technology and Engineering: Nature and Characteristics of Technology and Engineering

Students who demonstrate understanding can *compare the natural world and human-made world.*

Clarifying Statement: The natural world includes trees, plants, animals, rivers, oceans, mountains, and other items that make up the earth's landscape, biomes, and climate. The human-made world includes pencils, rulers, computers, buildings, airplanes, roads, refrigerators, communication devices, and other items developed for the betterment of humans.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Technology and Engineering Practices (TEP)
Asking Questions and Defining Problems Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions that can be tested. <ul style="list-style-type: none"> Define a simple problem that can be solved through the development of a new or improved object or tool. 	Natural Resources <ul style="list-style-type: none"> Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. 	Systems Thinking <ul style="list-style-type: none"> Learns that human-designed things are connected. Critical Thinking Engages in listening, questioning, and discussing.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to robotic industries and agriculture industries.

Pennsylvania Career Ready Skills: Identify consequences of a decision to oneself and others prior to action.

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.C: Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.