



## Grade 5

### 3.2.5.B Physical Science: Matter and Its Interactions

**Students who demonstrate understanding can** *make and communicate observations and measurements to identify materials based on their properties.*

**Clarifying Statement:** Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.

**Assessment Boundary:** Assessment does not include density or distinguishing mass and weight.

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
<b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. <ul style="list-style-type: none"> <li>Make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</li> </ul>	<b>Structure and Properties of Matter</b> <ul style="list-style-type: none"> <li>Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.)</li> </ul>	<b>Scale, Proportion, and Quantity</b> <ul style="list-style-type: none"> <li>Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.</li> </ul>

**Pennsylvania Context:** N/A

**PA Career Ready Skills:** Identify one's own strengths, needs, and preferences.

### Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.01.02.01.a: Research technologies used in AFNR systems.
Science, Environmental Literacy and Sustainability (NAEE)	5-8 Strand 1.C. Collecting information: Learners locate and collect quantitative and qualitative information about the environment and environmental topics, using a range of methods and sources. They explain why they used selected information collection methods.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	<p>CC.1.2.5.G: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</p> <p>CC.1.4.5.S: Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade level reading standards for literature and informational texts.</p> <p>CC.1.4.5.V: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</p> <p>CC.1.4.5.W: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</p> <p>CC.1.5.5.A: Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others' ideas and expressing their own clearly.</p>
PA Core Standards and Practices: Math	<p>MP.1: Make sense of problems and persevere in solving them.</p> <p>MP.2: Reason abstractly and quantitatively.</p> <p>CC.2.1.5.B.1: Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p>CC.2.4.5.A.6: Apply concepts of volume to solve problems and relate volume to multiplication and to addition.</p>
PA Standards: Social Studies	N/A
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-2I: Describe the properties of different materials.