Unit 1: Properties of Matter

Unit #:	APSDO-00034886	Duration:	6.0 Day(s)	Date(s):	

Team:
Jodi Kryzanski (Author), Allison Zmuda, Jodi Kryzanski, Erin Dolch, Jennifer Gregg, Kristen Jakupco, Lori Maniatis, Jeana Occhialini, Mary Labowsky, Kristin Cutler, Michele Lemis, Anne Marie Riley, Sally Tino-Pirla, Lisa Banever, Ashley Lacasse, Rebecca Haughey, Traci Protz
Grades:
2
Subjects:
Science

Unit Focus

In this unit, students will learn that everything is made up of matter and that materials can be grouped according to common observable properties. Students will recognize that different properties are suited to different purposes. Students will also understand that matter can exist in a solid or liquid state which is dependent upon the temperature of the material. The summative assessment is a performance task with a written component where students argue whether a mystery substance is a solid or a liquid based on evidence from the unit. Primary instructional materials may include related mentor text(s), online and print resources, and teacher generated inquiry tasks.

Stage 1: Desired Results - Key Understandings

Established Goals

Next Generation Science Standards (DCI)
Science: 2

- A great variety of objects can be built up from a small set of pieces. *PS1.2.A3*
- Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. *PS1.2.A1*
- Different properties are suited to different purposes. *PS1.2.A2*
- Heating or cooling a substance may cause changes that can be observed.

Transfer

T1 (T4) Develop a valid scientific conclusion, assess its validity and limitations, and determine future course of actions to inspire further questions.
T2 (T5) Communicate scientific information clearly, thoroughly, and accurately.

Meaning

Understandings

U1 (U414) Everything is made up of matter.
U2 (U415) Matter can be described and classified according to states [solid, liquid, Gr. 5 gases] and observable properties (e.g., color, texture, temperature, flexibility, wetness).

Essential Questions

Q1 (Q416) What is this object's purpose/function?
Q2 (Q417) How do these parts create a bigger whole? How can the whole be deconstructed (broken down into smaller parts)?

Sometimes these changes are reversible, and sometimes they are not. *PS1.2.B1*	**U3** (U416) Matter can take on a change (physical or chemical) that can be observed and measured. **U4** (U940) Conclusions can only be as strong as the quality and quantity of the evidence and analyses on which they are based.	**Q3** (Q913) How can I use science to figure out the answer, solve a problem, or design a solution? **Q4** (Q950) How do I use my findings/solutions to show what I learned? What can I learn by sharing my work with others? **Q5** (Q401) How can properties be used to identify and classify substances? **Q6** (Q402) How do objects change when they are heated or cooled?
	Acquisition of Knowledge and Skill	
	Knowledge	**Skills**
	K1 All materials can be changed from solid to liquid and vice versa by changing their temperature	**S1** Explain why a material is suited for a certain purpose based on its properties **S2** List examples of solids and liquids **S3** Observe changes in matter when an object is heated or cooled **S4** Identify changes in matter that are reversible and irreversible **S5** Identify a reversible and an irreversible change