States of Matter (Supplemental)

Content Area: **Science**
Course(s): **Science K**
Time Period: **Marking Period 4**
Length: **2 weeks**
Status: **Published**

Essential Questions

- What are observable properties of different materials?
- What similar properties do different materials share?
- How does temperature affect the state of matter?
- Does a material occur naturally or is it manufactured?

Big Ideas

- Matter exists as different substances that have observable different proprieties.
- Different properties are suited to different purposes. Objects can be built up from smaller parts.

Technology Connection

8.2.2.ITH.3: Identify how technology impacts or improves life.

Enduring Understandings

Next Generation Standards

Structure and Properties of Matter

K-PS1.A-a Design and conduct an investigation of different kinds of materials to describe their observable properties and classify the materials on the patterns observed.

K-PS1.A-b Design and conduct investigations to test the idea that some materials can be solid or liquid depending on the temperature.

K-PS1.A-c Ask questions, based on observations, to classify different objects by their use and to identify whether they occur naturally or are human made.

2-PS1.A-a Different properties are suited to different purposes.

2-PS1.A-b A great variety of objects can be built up from a small set of pieces (e.g., blocks, construction sets).

2-PS1.A-c Objects or samples of a substance can be weighed, and their size can be described and measured. (Boundary: volume is introduced only for liquid measure.)

Student Learning Standards

Mathematics

K.M D.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

Focus Areas

Knowledge

- That objects can be solid, liquid, or gas.
- Everything you see is made of matter.
- Properties can include height, weight, color, texture, and hardness.
- Liquids take the shape of the container they occupy.
- Solid retain their shape regardless of the container they occupy.
- Different types of matter (wood, metal, water) can be solid or liquid depending on the temperature.
- Matter can occur naturally or can be manufactured.

Skills

- Design and conduct investigations of materials to describe their properties and classify materials based on observations.
- Design and conduct investigations to test whether a material is solid or liquid depending on temperature.
- Classify different objects by their use and decide if the object occurs naturally or is human-made.

Understandings

- Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- Analyze data obtained from testing different materials to determine which materials have the properties

that are best suited for an intended purpose.

- Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

Resources

Primary Resources

- NJCTL Unit 8 Matter
- BrainPop, Jr.

Scientific Inquiry

Supplemental

- Matter – Liquids Lab
- Liquids –Density Lab
- Liquids Hot and Cold Lab
- It's a Gas Lab
- Gas Bubbles Lab
- Liquids to Solids Lab
- Liquid to Gas Lab
- Gas to Liquid Lab
- States of Matter – In Nature Lab
- States of Matter – In Nature Lab
- BrainPop, Jr. - Solids, Liquids, Gas - Changing States of Matter