

# FALMOUTH PUBLIC SCHOOLS

## SCIENCE CURRICULUM

**Unit Overview: Physical Science (PS) Solids, Liquids, and Gas**

**Grade 1**

Suggested time frame: 6 sessions + assessment(s)

1 of 2

### **Science Curriculum Goals**

1. SCIENTIFIC LITERACY. Provide all students with science experiences that are appropriate to their cognitive stages of development and serve as a foundation for more advanced ideas that prepare them for life in an increasingly complex scientific and technological world.
2. INSTRUCTIONAL EFFICIENCY. Provide all teachers with a comprehensive, flexible, attainable science curriculum based upon current research on learning; including collaborative learning, student discourse, and embedded assessment, and uses effective instructional methodologies including: hands-on active inquiry-based learning, integration of disciplines and content areas, and multi-sensory methods.
3. SYSTEMIC REFORM. Aligned to the Massachusetts State Curriculum Frameworks Science Standards and societal expectations that will prepare students with the knowledge, skills and understandings to succeed in the 21st century.

### **Pedagogy**

Young people need an understanding of basic scientific concepts and methods in order to comprehend the scientific issues that will shape their lives. It is equally important for students to develop and apply the concepts and process skills used in scientific inquiry so that they will be prepared to solve problems encountered in other areas of study and in dealings with the everyday world.

This unit emphasizes basic science concepts and skills presented through a range of engaging, inquiry-based, hands-on instructional experiences that focus on the processes and techniques of discovery. This unit is designed to promote scientific literacy and provide opportunities for students to satisfy their innate curiosity as they develop techniques for observing, questioning, and testing basic scientific concepts.

### **Unit Summary**

This unit, "Solid, Liquid and Gas", provides first graders with very introductory experiences with the three fundamental states of matter: solid, liquid or gas. Two of these states of matter, solid and liquid, are experienced through touching, observing, and comparing.

### **Curriculum Standards and Enduring Understandings**

- PS #2 Identify objects and materials as solid, liquid or gas.  
Solids and liquids can be described and sorted by their properties.  
A gas is also a form of matter.
- PS #2 Recognize that solids have a definite shape and that liquids and gases take the shape of their container.  
The shape of water depends on the shape of the container it is in.

(adapted from lhsfoss.org)

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### **Essential Questions**

- How can solid objects be sorted?
- What are different materials that objects are made out of?
- How can liquids be sorted?
- How are solids and liquids alike and different?
- What shape is water, or any other liquid?

### **Evidence of Scientific Method within Instruction**

- ✓ Reading (shared, guided, independent) – *share information, collaborate*
- ✓ KWL – *activate, predict, analyze, hypothesize*
- ✓ Think – Pair – Share – *share information, collaborate*
- ✓ Modeling – *share information, observe, experiment*
- ✓ Participating in experiments - *share information, procedure, measure, record, compare, sort & classify*

### **Unit Vocabulary**

alike	flat	hard	rough	translucent
bubbly	flexible	has color	soft	transparent
compare	foamy	pointed	solid	
different	gas	rigid	smooth	

### **Assessments**

- ❖ Observations
- ❖ Anecdotal notes
- ❖ Class discussions
- ❖ Activity sheets
- ❖ Lab report(s)
- ❖ ORQ(s) \*from Essential Questions