



<i>Timeline -></i>	<u><i>Quarter Three (lessons)</i></u>
<p><i>Guiding Questions</i></p>	<p><u><i>Science:</i></u> What are the characteristics/attributes of matter? How can we observe and measure different forms of matter? What can we infer about the different forms of matter? How can we compare and contrast different types of solids, liquids and gasses?</p> <p><u><i>Language Arts:</i></u> How can we read procedural directions to conduct an experiment? How can we use informational text to build our vocabulary word wall? How can we use our science notebook to write about our observations, our learning, our class data and new vocabulary? How can we use new science terms to describe what we have learned about matter? How can we use text features to make inferences and observations to support our reading about matter?</p> <p><u><i>Math:</i></u> How can Venn diagrams help sort items that are the same or different? How is a data/tally table drawn to show totals with collected data from our different experiments? What conclusions can we draw from the data collected? What types of tools are used to collect different types of measurements? How can we use different measuring tools to collect data?</p> <p><u><i>Health:</i></u> How can we use different solids & liquids to learn about what is healthy for us to eat?</p> <p><u><i>Art:</i></u> How can we draw/illustrate and label sketches for a science notebook? How can we create 3-D models that show what we have learned about different reactions in matter? Can we use different materials to create a collage of matter?</p>
<p><i>General Learner Outcomes</i></p>	<p><u><i>GLO#1: Self-Directed Learner:</i></u> Students will follow directions to complete the class and homework tasks.</p> <p><u><i>GLO#2: Community Contributor:</i></u> Students will share their math, science and literacy products with other members of their class or another classroom.</p> <p><u><i>GLO#3: Complex Thinker:</i></u> Students will use their problem solving, math and writing skills to investigate</p>



	<p>the properties of matter.</p> <p><u>GLO#4: Quality Producer:</u> Students will create several products (poster/model/graphs/data tables) that illustrate their understanding about matter.</p> <p><u>GLO#5: Effective Communicator:</u> Students will listen, discuss and record information from their different lessons through oral, written and math pieces that illustrate concepts they have learned. Students will orally share their products with other students.</p> <p><u>GLO#6: Effective and Ethical User of Technology:</u> Students will utilize technology to record observations, categorize items, and supplement their constructed response questions.</p>
<i>Assessments</i>	<p>Pre/post Harcourt Text assessment Rubric for Performance Assessment p. 347</p>

Big Idea(s) / Major Understanding(s): *Students will understand that...*

Matter takes up space and has mass.

There are 3 states of matter: solid, liquid and gas.

HCPS III Benchmarks:

- ◇ 1.1.1 **Scientific Inquiry**
Collect, record, and organize data using simple tools, equipment, and techniques safely
- ◇ 1.1.2 **Scientific Inquiry**
Explain the results of an investigation to an audience using simple data organizers (e.g., charts, graphs, pictures)
- ◇ 1.2.1 **Science, Technology, and Society**
Explain why people create technological devices
- ◇ 1.6.1 **Nature of Matter**
Identify solids, liquids, and gasses and their basic properties.



Frameworks for Success in Science – MSP Grant SY2010-11

WORKING DRAFT COHORT I & II

Ka'ūmana, Ha'aheo, Hilo Union, Kalaniana'ole, Kapiolani Elementary Schools

Content Area: Interdisciplinary/Science

Grade Level: 1

Sample Performance Assessment Rubric

Topic	Scientific Inquiry		
Benchmark SC.1.1.1	Collect, record, and organize data using simple tools, equipment, and techniques safely		
Sample Performance Assessment (SPA)	The student: Uses simple tools safely (e.g., magnifying glass, balance scales) to make observations about common objects in the classroom and uses simple techniques to record and organize data for analysis.		
Advanced	Proficient	Partially Proficient	Novice
Collect, record, and organize data accurately, using a variety of simple tools, equipment, and techniques safely	Collect, record, and organize data using simple tools, equipment, and techniques safely	Collect, record, and organize data using simple tools, equipment, or techniques safely, with assistance	Collect, record, and organize data safely, with much assistance
Benchmark SC.1.1.2	Explain the results of an investigation to an audience using simple data organizers (e.g., charts, graphs, pictures)		
Sample Performance Assessment (SPA)	The student: Describes what was investigated, discovered, and learned to classmates, using simple data organizers.		
Advanced	Proficient	Partially Proficient	Novice
Clearly explain, in detail, the results of an investigation to an audience using data organizers	Explain significant results of an investigation to an audience using simple data organizers	Explain, with assistance, the results of an investigation to an audience	Explain, with much assistance, a part of an investigation to an audience

Topic	Science, Technology, and Society		
Benchmark SC.1.2.1	Explain why people create technological devices		
Sample Performance Assessment (SPA)	The student: Gives reasons common devices were invented.		
Advanced	Proficient	Partially Proficient	Novice
Compare various reasons people create technological devices	Identify a few technological devices and explain why they were created	Identify, with assistance, a technological device and a reason it was created	Give an example of a technological device
Topic	Nature of Matter		
Benchmark SC.1.6.1	Identify solids, liquids, and gases and their basic properties		
Sample Performance Assessment (SPA)	The student: Lists the basic properties of solids, liquids, and gases.		
Advanced	Proficient	Partially Proficient	Novice
Provide examples of solids, liquids, and gases and describe their properties	Identify solids, liquids, and gases and their properties	Provide a few examples of solids, liquids and gases and a property of each	Recognize, with assistance, solids, liquids, and gases



Lessons Summary

Lesson #	Lesson Title	Materials/What the student will do...
Pretest	“All About Matter” pp. AG71-74 Chapter Assessment	Student copies
All About Matter	Textbook Ch. 10, Lesson 1 pp. 310-316	Use the “small books” to have students read about matter and create a word wall for the class
What is Matter? “Pasta Sort” p. 312 Lesson #1 OR	What is matter? Can we describe matter by drawing and labeling pictures of different types of pasta?	Chart paper, different types of pasta (6 different types), can also use math attribute or geoblocks and foam shapes instead of pasta or individual “tool boxes”, grouping circles, Pasta Sort worksheet where students could draw and list/label each item in the circles Needed to discuss words to describe (texture, mixture, weight) Big Book? Or www.hspscience.org
Lesson #2 What is Matter?	What is matter? Can we describe matter by drawing and labeling pictures? MatterHunt – Start inside and have students select items from their bag to sort as a class. Possibly take digital pics of different shapes or forms of matter – matter is all around us Sharing with smartboard, start building matter video/powerpoint	Chart paper, pictures of various items, incl. Student science logs Matter worksheet where students could draw and list/label each item Digital camera or video camera, Kid Pix, powerpoint BIG BOOKS: Let’s experiment, Being a Scientist
SOLID	What can We Observe About Solids? Pp.318-323 (text)	Read with text
SOLID	Measuring Mass Activity p. 319 LM 102 Compare/contrast mass Transparency IS 35 - COMPARE	Optional idea – use the pasta for measuring solids, as well as mixture OR use the trail mix in the same way. OR borrow Pinner’s button sets...
SOLID	Measuring Length and Width	Solid items that are easy to measure with a ruler, CREATE student worksheet or data table for sizes



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	(standard, metric units)	
	Measuring Mass	Balance with blocks and teddygrams
AIMS	Making Sense of Solids (2 experiments per day)	Emphasize the four generalizations – use the student journal pages for science notebooks – do each investigation together as a class focusing on following procedures
Solid	Reading and Homework support RS80-81 Option Use - DVD – solid/liquid/gas	Student worksheets
LIQUIDS Lesson 3	What Can WE Observe About Liquids? Text pp. 326-332 What makes a liquid? How do we describe a liquid?	Use the text to focus on reading and vocabulary of the lesson
LIQUIDS	Language Arts – Acrostic Poem	Student written response about which form of water they would want to be and give 2 reasons (justify) their rationale
LIQUIDS	Use TRANSPARENCY IS36 “Measure” to help students read a measuring cup. Then do the experiment The Shape of Liquids LM p. 104 Investigating the Shape of Liquids	3 different containers of water and a measuring cup Discuss student predictions prior to investigation and then have them record
AIMS	Liquids Stations	Looking at Liquids (liquids station cards) Could use other types of liquids like clear glue, GermX, etc. student ideas...
LIQUIDS	Observing Liquids p. 328	Students brought in different liquids to compare and contrast. Charted their results Predict which liquids were heavier or lighter – try to arrange liquids in order from heaviest to lightest CONCLUSIONS...
LIQUIDS	Liquid Mixtures – dissolve or not? P.329	
LIQUIDS	Float and Sink – pp. 330-331	Experiment -
LIQUIDS	Measuring Liquids	Balance scale, equal amounts of different liquids
LIQUIDS	Reading Study Guide	RS82-83 – individual students



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GAS Lesson 4	What Can We Observe About Gasses? Text pp. 334-341	Student reading and vocabulary enhancement
GAS	Matter in a Bottle LM 105 Experiment/Inquiry Activity	Balloon, clean plastic bottle
AIMS	Gas Stations (Stations – try it out and see what you are able to do)	Student journal pages to copy, cut and paste into science notebooks (bubbles and balloons)
GAS	Big Bubbles p. 334 - How can we observe gasses?	Recipe on p. 334 TG
GAS Physical Changes	What is Steam - p. 340 How do we produce and collect/measure gas?	www.hspscience.org (grade 1) YEAST “Investigate Further LM106 Or could use small plastic flask or bottle, balloon, alka seltzer, water
GAS	Reading & Homework Support RS84-85	Individual/class textbook work.
Physical Changes	Ice Cream making Choose either this one or the Flubber	Liquid to Solid
Physical Change	Flubber	Liquid to Solid
Post-test	Matter assessment	

Word Wall – Science Words

Inquiry Standard: observation, infer, identify, classify, compare/contrast, collect, record, communicate

Physical Science: matter, features, characteristics, mass, solid, liquid, gas, invisible, “takes up space”, steam, mixture, dissolve, float/sink

Technology: tool, equipment, scientist

Math: tally, data, graph, data table, VENN diagram, measure (length, width, mass), physical characteristics/attributes