



<i>Timeline -></i>	<u><i>Quarter Four (lessons)</i></u>
<i>Guiding Questions</i>	<p><u>Science:</u> What are the characteristics/attributes of the water cycle? How does the sun provide the energy to drive the water cycle? What is the water cycle? How does water change phases throughout the water cycle? Does air contain matter? How does water and air contribute to weather? What are clouds? What are the different seasons?</p> <p><u>Language Arts:</u> How can we relate the terms beginning, middle and end to help write about the seasons? How can we use non-fiction 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 know about the water cycle, weather and the seasons?</p> <p><u>Math:</u> How can Venn diagrams help sort items that are the same or different? How is a bar graph drawn to show totals with collected data? What conclusions can we draw from the data portrayed by the graph? How can we use different measuring tools to collect data?</p> <p><u>Art:</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 the water cycle?</p>
<i>General Learner Outcomes</i>	<p><u>GLO#1: Self-Directed Learner:</u> Students will follow directions to complete the class and homework tasks.</p> <p><u>GLO#2: Community Contributor:</u> Students will share their math, science and literacy products with other members of their class or another classroom.</p> <p><u>GLO#3: Complex Thinker:</u> Students will use their problem solving, math and writing skills to investigate the different parts of the water cycle.</p> <p><u>GLO#4: Quality Producer:</u> Students will create several products (poster/model/graphs/data tables) that illustrate their understanding about how the sun and weather are</p>



	<p>developed through the water cycle.</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>
Assessment	<p>Harcourt pre/post chapter 7 assessment Harcourt post chapter 8 assessment</p>

Standards and Benchmarks

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

The sun's warmth differs, depending on the time of day and existing weather conditions (seasons).

The warmth of the sun is a key component of the water cycle.

Stages within the water cycle relate to the different states of matter.

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

• **1.8.1 The Universe**

Describe that the sun warms the land, air, and water



Frameworks for Success in Science – MSP Grant SY2010-11

WORKING DRAFT – COHORT I & II

Ka‘umana, Hilo Union, Kalaniana‘ole, Kapiolani and Ha‘aheo 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	The Universe		
Benchmark SC.1.8.1	Describe that the sun warms the land, air, and water		
Sample Performance Assessment (SPA)	The student: Describes the differences in the warmth of land, air, and water in the morning and afternoon or on cloudy and sunny days.		
Rubric			
Advanced	Proficient	Partially Proficient	Novice
Explain that the sun warms the land, air, and water and give examples	Describe that the sun warms the land, air, and water	Recall that the sun warms the land, air, and water	Recall, with assistance, that the sun warms the Earth



Lessons Summary

Topic	Lesson	Materials
Harcourt Text	Chapter 7 Measuring Weather	Chapter 7 - pretest
Harcourt Text	Lesson 1	What is Weather? (pp. 222-229) Read and introduce chapter. Lesson Quick Study RS 54-55 (teacher provides a “word bank” to assist students to complete the work.
Harcourt Text	Lesson 2	How Can we Measure Weather? (pp. 230-235) Lesson Quick Study RS 56-57 (provide word bank)
Harcourt Text	Lesson 2	Making a Thermometer – have students fill in the missing numbers on the large copies of the thermometers. Measuring Temperature experiment LM-77
AIMS	The Wind Blows	What can we observe about the wind? Pinwheel (optional)
AIMS	Which Way	How can you tell which way the wind is blowing? (wind vane) Use the wind vane as a class demo maybe prior to having students construct (send home instructions later) One connection to direction of the wind would be a) morning “mountain breeze” b) afternoon “ocean breeze”
AIMS	A Disappearing Act	What happens to moisture on the playground? Students will see the results of water disappearing into the atmosphere. Use a small cup of water or spray bottle to make the wet area on the asphalt. Use coop team jobs to have students do each of the tasks. (Spray bottle person, the chalk area person, measurer, checker, recorder on group data chart). Some ideas for measurement: use unifix blocks – put across the area, count & record OR use measuring tape and read to the nearest whole number OR take away (subtract) unifix blocks as puddle reduces. Could mark an “X” from the start place to measure.
AIMS	Puddle Pictures OPTIONAL	Optional – art lesson
AIMS	Water Cycle Watchers	Have students watch the model of the water cycle with the 2 liter bottle. While they are waiting for the rain drops to get big enough, have them begin their paper plate water cycle.
Water Cycle Booklet		Use the pages to color and highlight as a water cycle booklet. Be sure to point out that “Accumulation” and “Collection” mean the same things. Use the last page of the booklet as the “model” for the students to create their paper plate water cycle.
AIMS	What Makes	The Three jars (evaporation and melting) p. 100



Frameworks for Success in Science – MSP Grant SY2010-11

WORKING DRAFT – COHORT I & II

Ka‘umana, Hilo Union, Kalaniana‘ole, Kapiolani and Ha‘aheo Elementary Schools

Content Area: Interdisciplinary/Science

Grade Level: 1

	Rain?	Then do the What makes rain with the little jars (condensation)
Harcourt Text	Lesson 3	What makes clouds and rain? (pp. 236-241) RS 58-59
AIMS	Cloudy Weather OPTIONAL	Cloud in a Bottle demonstration (students record what they saw happen) What can you observe about clouds? (daily data collected on cloud types)
Harcourt Text	Chapter 7	Chapter 7 – post-test

Resources

Book – Sun and Rain: Exploring Seasons in Hawaii by Stephanie Feeney

Book – The Water Cycle (Harcourt)

Book – Measuring Weather (Harcourt)

Book – Winter is for Whales by Ron Hirschi (Book Gallery)

DVD – The Water Cycle (Discovery Site)

Word Wall – Science Words

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

Earth Science: weather, temperature, thermometer, water cycle, evaporate, evaporation, water vapor, condense, condensation, accumulation, precipitation, season, spring, summer, winter, fall, migrate

Technology: tool, equipment, scientist, thermometer, wind vane

Math: tally, data, graph, data table, VENN diagram, measure, physical characteristics/attributes