Pre-K Chapter 8

Content Area: **Math**
Course(s):
Time Period: **April**
Length: **6-8 Weeks**
Status: **Published**

Enduring Understandings

During this chapter, students will learn to:

- Explore and compare lengths and heights of objects.
- Explore the weight and height of objects determining heavy and light.
- Explore capacity to gain understanding of holds more and holds less.
- Explore area to gain understanding of covers more and covers less.
- Explore time to gain understanding of morning, afternoon, and night.

After this chapter, students will learn to:

- Collect, organize, and display data.
- Explore and interpret real graphs and picture graphs.

Unit Overview

In Chapter 8, measuring length, height, weight, and capacity, as well as ordering lengths will be emphasized.

Identifying object attributes and understanding that objects have attributes that can be measured are the basis of this chapter. Students will explore the length, height, capacity, and area of objects through hands-on opportunities. They will observe and compare objects to discover that attributes can be ordered by size. Through awareness of daily events or activities and observation of environmental changes, students will learn that times of day are also measurable.

What's Happening Developmentally?

This area encompasses the child's ability to recognize and apply attributes to concepts that help explain the physical world and its relationship to them and their environment.

Many **3-year-olds** will have a very basic understanding of descriptive terms such as "long," "short," and "big." Although they are beginning to comprehend the concept of days ("yesterday," "today," and "tomorrow"), telling time is still beyond their ability.

4-year-olds are beginning to make inroads in using time as a point of reference, although most are still not able to tell time. Common to this age level is the use of artifacts to solve questions of length, weight, and height. They will also begin to use physical objects as comparisons when engaging in estimations (e.g., "I threw the ball as high as my house").

At the age **5 years**, are on the edge of and beginning to wrestle with the idea of conservation. Throughout this period, they actively pursue solving question of height, weight, and length through the use of items (pencils, paper clips, boxes) to understand and explain such concepts. On occasion, some 5-year-olds will use a ruler and scale but will not utilize them evenly across the various attributes.

Essential Questions

In what ways can we measure objects?

Instructional Strategies & Learning Activities

Lesson	8-1	8-2	8-3	8-4	8-5	8-6
Lesson/Objective	**Length** (pp.48A-48D) **Objective**: Students will identify, describe, and compare objects by length.	**Weight** (pp. 49A-49D) **Objective:** Students will describe and compare the weight of objects.	**Seriation** (pp. 50A-50D) **Objective:** Students will order objects by length and height	**Capacity** (pp. 51A-51BD) **Objective:** Students will describe and compare capacity	**Area** (pp. 52A-52D) **Objective:** Students will measure how much space a region covers.	**Problem Solving** (pp. 53A-53B) **Objective:** Students will use the Draw A Picture strategy to solve area problems.
Foundation for CCSS	K.MD.1, K.MD.2	K.MD.1, K.MD.2	K.MD.1, K.MD.2	K.MD.1, K.MD.2	K.MD.1, K.MD.2	K.MD.1
Math Vocabulary	length, long,	heavy, heavier, light,	long, longer, longest, order,	holds less, holds more	big, covers less, covers	-

	longer, same, short, shorter	lighter, weight	short, shorter, shortest, tall, taller, tallest		more, size, small	
Lesson Resources	**Materials:** modeling clay, blue yarn, yellow yarn, red yarns, purple yarn. scissors, string, tape **Manipulatives**-two-color counters, connecting cubes **Other Resources**-*Blue Sea* by Robert Kalan; *Help Sam Build* by Pat Cella	**Materials:** Flip Book, classroom objects of different weights, baseball, leaf, chart paper, stapler **Manipulatives**-bucket balance **Other Resources**-*Mighty Maddie* by Staurt J. Murphy; *Help Sam Build* by Pat Cella	**Materials:** Flip Book, string, classroom objects, paper, markers or crayons **Manipulatives**-connecting cubes **Other Resources**- *In the Middle of the Puddle* by Mike Thaler *Help Sam Build* by Pat Cella	**Materials:** Flip Book, boxes differing in size and shape, toys, 2 bowls, 4-ounce, 8-ounce, 12-ounce cups, water, beans **Manipulatives**-connecting cubes **Other Resources**-*A House For Birdie* by Staurt J. Murphy *Help Sam Build* by Pat Cella	**Materials:** Flip Book, paper, rectangles and squares, tape, scrap paper **Manipulatives**-attribute buttons, **Other Resources**-*Calculating Areas: A Rocket Ship!* by John Burnstein	**Materials:** Flip Book, rectangular trays, tape, crayons, index cards, paper, Work Mat 1 Sorting Mat/T-Chart page WM1 **Manipulatives:** color tiles, connecting cubes **Other Resources**-*Is It Larger? Is It Smaller?* by Tana Hoban
Technology connectED	Song: "Can You Tell Me Now?"	Song: "Can You Tell Me Now?"	Song: "Can You Tell Me Now?"	Song: "Can You Tell Me Now?"	Song: "Can You Tell Me Now?"	Song: "Can You Tell Me Now?"
Researching All Learners	Stepping Back English Language Learners Going Farther	Stepping Back English Language Learners Going Farther	Stepping Back English Language Learners Going Farther	Stepping Back English Language Learners Going Farther	Stepping Back English Language Learners Going Farther	Stepping Back English Language Learners Going Farther

Integration of Career Readiness, Life Literacies and Key Skills

	Different types of jobs require different knowledge and skills.
9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Computer Science and Design Integration

8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.

Interdisciplinary Connections

All disciplines are incorporated into the preschool program when appropriate.

LA.RI.K.1	With prompting and support, ask and answer questions about key details in a text.
LA.RI.K.2	With prompting and support, identify the main topic and retell key details of a text.
LA.RI.K.4	With prompting and support, ask and answer questions about unknown words in a text.
LA.RI.K.7	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
LA.RF.K.1	Demonstrate understanding of the organization and basic features of print.
LA.RF.K.2	Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
LA.RF.K.3	Know and apply grade-level phonics and word analysis skills in decoding and encoding words.

Differentiation

Each chapter in MyMath teacher manual contains differentiated instruction for Approaching Level, On Level, and Above Level students.

Modifications & Accommodations

IEP and 504 accommodations will be utilized in addition to the differentiated instruction in the Unit.

Benchmark Assessments

Checklists

Teacher observation

Formative Assessments

Checklists

Teacher observation

Discussion

Summative Assessments

Assessments for chapters located in MyMath Unit.

Instructional Materials

See Above

Standards

4.1	Children begin to demonstrate an understanding of number and counting.
4.1.4	Understand the relationship between numbers and quantities (i.e., the last word stated when counting tells “how many”):
4.1.4.a	Accurately count quantities of objects up to 10, using one-to one-correspondence, and accurately count as many as 5 objects in a scattered configuration.
4.1.4.b	Arrange and count different kinds of objects to demonstrate understanding of the consistency of quantities (i.e., “5” is constant, whether it is a group of 5 people, 5 blocks or 5 pencils).
4.1.4.c	Instantly recognize, without counting, small quantities of up to 3 or 4 objects (i.e., subitize).
4.1.5	Use one to one correspondence to solve problems by matching sets (e.g., getting just enough straws to distribute for each juice container on the table) and comparing amounts (e.g., collecting the number of cubes needed to fill the spaces in a muffin tin with one cube each).

4.3.1	Sort, order, pattern, and classify objects by non-measurable (e.g., color, texture, type of material) and measurable attributes (e.g., length, capacity, height).
4.3.2	Begin to use appropriate vocabulary to demonstrate awareness of the measurable attributes of length, area, weight and capacity of everyday objects (e.g., long, short, tall, light, heavy, full).
4.3.3	Compare (e.g., which container holds more) and order (e.g., shortest to longest) up to 5 objects according to measurable attributes.