

Teaching Unit 7 (Continued)

Math Background

Measurement Units

Length

Students estimate, measure, and draw lengths using customary units of inches, feet, and yards. They also estimate and measure lengths using metric units of centimeters, decimeters, and meters. Students will measure length to a nearest unit, such as nearest inch, half-inch, or quarter-inch. They will learn how to choose an appropriate length unit. Students will also find and use measurement benchmarks, such as a small paper clip is about 1 inch long, to help them visualize the size of units. Students will also convert between units and use their knowledge of multiplication and division to help convert.



1 inch



1 foot



Add Lengths

Students gain experience in adding customary units of length. They add whole numbers and mixed numbers with like and unlike denominators.

Addition	Description
$1 \text{ in.} + 1\frac{1}{4} \text{ in.}$	Whole number plus a mixed number
$1\frac{3}{4} \text{ in.} + 1\frac{1}{4} \text{ in.}$	Mixed number plus a mixed number with the same denominators.
$1\frac{1}{2} \text{ in.} + 1\frac{1}{4} \text{ in.}$	Mixed number plus a mixed number with different denominators.

Capacity

Students will be presented with customary units of capacity using the “milk standard.” They will see milk cartons labeled with their capacities, or how much they can hold: 1 cup, 1 pint, 1 quart, half-gallon, 1 gallon. We ask students to examine and predict how the sizes of containers relate to each other. They also use rice or water to fill and compare capacities of the containers. Students state each comparison in an equation in two ways to help with conversions.

Capacity Conversions	
1 cup = $\frac{1}{2}$ pint	1 pint = 2 cups
1 pint = $\frac{1}{2}$ quart	1 quart = 2 pints
1 quart = $\frac{1}{2}$ half-gallon	1 half-gallon = 2 quarts
1 half-gallon = $\frac{1}{2}$ gallon	1 gallon = 2 half-gallons

Weight and Mass

Students find benchmarks for ounces, pounds, grams, and kilograms. They estimate the weight or mass of an object. Students choose an appropriate unit to use to measure weight or mass of an object. They convert between pounds and ounces and between grams and kilograms.

Benchmarks for 1 Pound, 1 Ounce, 1 Kilogram, and 1 Gram

One pound (1 lb):
box of butter



One ounce (1 oz):
slice of cheese



One kilogram (1 kg):
textbook



One gram (1 g):
paperclip

