

Time  
When? How long?

Elapsed time

time between  
start and finish

Units

Seconds	weeks
minutes	months
hours	years
days	decades

Tools

Digital clock  
calendar

Length

How long?  
How short?

Units

metric	US Customary
millimeter	inches (in)
centimeter	feet (ft)
decimeter	yard (yd)
Meter	miles

Kilometer

(km)

base ten

Tools

Ruler

tape measure

inch

centimeter

decimeter

meter

base ten

Tools

caliper

inch

centimeter

meter

base ten

Tools

inch

centimeter

meter

base ten

Tools

inch

centimeter

meter

base ten

Weight

How heavy?  
How light?

Units

metric	US Customary
milligram	milligram (mg)
centigram	ounce (oz)
deciagram	pound (lb)
gram	ton
kilogram	

base ten

Tools

Balance scale

Weights

Tools

Balance scale

Weights

Tools

Balance scale

Weights

Mass

How heavy?  
How light?

Units

metric	US Customary
millimeter	inches (in)
centimeter	feet (ft)
decimeter	yard (yd)
Meter	miles

base ten

Tools

inch

centimeter

meter

base ten

Tools

## Mathematical Practices:

## APS Units of Study

Unit 12: Solving Mass and Volume Problems  
(Plus review of geometric measurement)

## UNIT PLANNING TOOL

Use appropriate tools strategically.  
Attend to precision.

## Unit Goals:

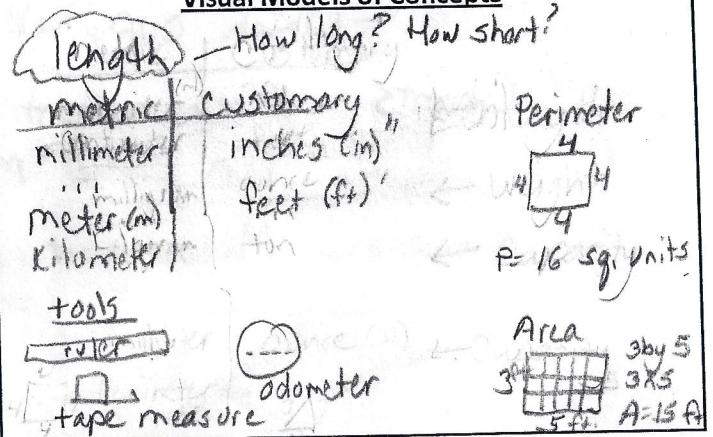
CCSS M:

- Measure and estimate liquid volumes and masses of objects using standard units  $\text{g}$ ,  $\text{kg}$ ,  $\text{liters}$
- +, -,  $\times$ , and  $\div$  to solve one-step word problems involving volume or mass given in the same units

## Standards:

Key Concepts

- measure and estimate mass and volume (liquid)  $\text{g}$ ,  $\text{kg}$ , liters
- Know which unit to use for different types of measurement
- review elapsed time, area and perimeter length
- Understand base 10 system with metric system

Visual Models of ConceptsAlgorithms/Diagrams/Tools

Weight - How heavy? How light  
 metric vs customary

tools  
 balance scale  
 produce scale

Capacity - How much can it hold?  
 metric vs cust.

tools  
 beaker  
 measuring cup  
 measuring pitcher

Time - elapsed time units  
 when? How long?  
 seconds days

analog digital

Connections (Real World Applications)

- Weighing fruits/vegetables in the produce section
- measuring your height or weight to see how much you've grown
- Understanding the temperature in weather forecasts
- Knowing how much liquid a container will hold

The \_\_\_ weighs \_\_\_ grams.

Language Functions/Structures

You measure \_\_\_ with \_\_\_ - a \_\_\_

The \_\_\_ holds \_\_\_ (liters...)

You use \_\_\_ to measure \_\_\_.

The \_\_\_ is \_\_\_ long.

A \_\_\_ is than a \_\_\_.

(5) (minutes) passed between \_\_\_ and \_\_\_.

It holds more because \_\_\_.  
 A \_\_\_ is about \_\_\_.

perimeter area elapsed  
 area units metric  
 length VS customary  
 weight - mass

Vocabulary

measure  
 estimate  
 liquids  
 tools

grams  
 Kilograms  
 liters

## focus and motivation

www.brainpopjr.com - grams and kilograms

Millions to Measure by David Schwartz

Capacity - Math Counts series

→ Which cup holds more?

Chants - Measurement Bugaboo

Ten Little Millimeters

Measurement Chant (inches, feet, yards)

## Pre-assessment

- grams and kilograms

- liters

- metric vs. US customary

- knowing which unit to measure with  
ex.

height of      inches    or pounds  
a dog