

Section Overview



Customary Units of Measure

Lessons 9-1, 9-3

Why? Customary units of measure are commonly used in the United States.

Common Customary Measurements		
Length	Weight	Capacity
1 foot = 12 inches	1 pound = 16 ounces	1 cup = 8 fluid ounces
1 yard = 36 inches	1 ton = 2,000 pounds	1 pint = 2 cups
1 yard = 3 feet		1 quart = 2 pints
1 mile = 5,280 feet		1 quart = 4 cups
1 mile = 1,760 yards		1 gallon = 4 quarts
		1 gallon = 16 cups
		1 gallon = 128 fluid ounces

Proportions can be used to convert units within the customary system.

Convert 4 yards to feet.

$$\frac{1 \text{ yd}}{3 \text{ ft}} = \frac{4 \text{ yd}}{x \text{ ft}}$$

$$1 \cdot x = 3 \cdot 4$$

$$x = 12$$

So 4 yards is 12 feet.

Metric Units of Measure

Lessons 9-2, 9-4

Why? Metric units of measure are commonly used in science.

To **multiply** by the n th power of ten, move the decimal point n places right.

To **divide** by the n th power of ten, move the decimal point n places left.

	Unit	Abbreviation	Approximate Comparison
Length	Kilometer	km	Length of 10 football fields
	Meter	m	Width of a door
	Centimeter	cm	Width of your little finger
	Millimeter	mm	Thickness of a dime
Mass	Kilogram	kg	Mass of a textbook
	Gram	g	Mass of a small paperclip
Capacity	Liter	L	Filled bottle of sparkling water
	Milliliter	mL	Half-filled eyedropper

Time and Temperature

Lesson 9-5

Why? Many real-world situations involve using measures of time or temperature.

Time	
1 year (yr) = 365 days	1 day = 24 hours (hr)
1 year = 12 months (mo)	1 hour = 60 minutes (min)
1 year = 52 weeks	1 minute = 60 seconds (s)
1 week = 7 days	

Temperature Conversions	
To convert Celsius to Fahrenheit, use $F = \frac{9}{5}C + 32$.	To convert Fahrenheit to Celsius, use $C = \frac{5}{9}(F - 32)$.