

MA 8B	Mathematics Embedded Credit
Cape Career & Technology Center	Last Update: January 2005
Topic: Units of Measure	Focus: Conversion between Systems

Show-Me Standards: MA1, MA2	MO Grade Level Expectations: M1A5, M1B5, M2E5, M2E6, M2E7	NCTM Standards: 12A
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OBJECTIVE: Students will be able to use conversion information to solve problems between measurement systems.

Introduction:

There are two primary systems that are used for measurement: U.S. Conventional and the Metric Systems. The following table describes the main units of measurement for the two systems.

Unit of Measure	U.S. Conventional Equivalent	Metric System Equivalent
Length	Inch, foot, yard, mile	Centimeter, meter, kilometer
Area	Square inch, square foot, acre	Square centimeter, square meter, square kilometer
Volume	Cubic inch, cubic feet	Cubic centimeter, cubic meter
Capacity	Fluid ounce, cup, pint, quart, gallon	Milliliter, liter, kiloliter
Weight	Once, pound, ton	Milligram, gram, kilogram

LENGTH: the base quantity of distance.

AREA: the 2-dimensional measurement of a region.

VOLUME: the measurement of space occupied by a 3-dimensional object, such as a closed cardboard box.

CAPACITY: the measure of what is contained within an object, such as a liquid in a bottle. Also, the measure of how much an object can hold. Capacity is a measure of volume, in reality. Some references do not split the two categories. In general, volume refers to dry measure and capacity to fluid measure.

WEIGHT: the measure of how heavy something is.

CONVERSION FACTOR: the relationship used to change from one unit to another (i.e., 1 foot = 12 inches).

