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| MA 8B | Mathematics Embedded Credit |
| Cape Career & Technology Center | Last Update: April 2017 |
| Topic: Units of Measure | Focus: Conversion between Systems |

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| 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).

