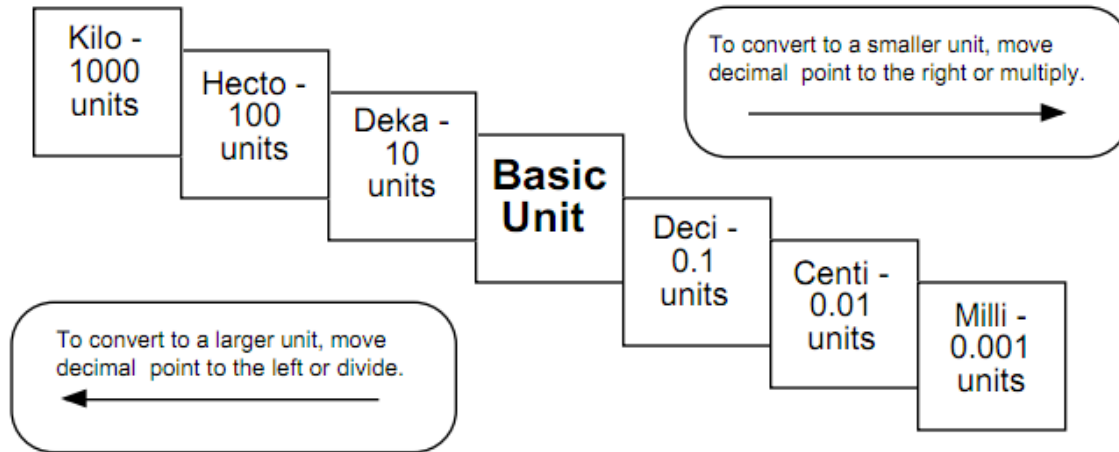


## Metric Units

Kilo-, centi-, and milli- are the most frequently used prefixes of the metric system. You need to be able to go from one to another without a calculator. You can remember the order of the prefixes by using the following sentence: *King Henry Died By Drinking Chocolate Milk*. Since the multiples and divisions of the base units are all factors of ten, you just need to move the decimal to convert from one to another.



**IMPORTANT: YOU CAN ONLY USE THIS METHOD WITH ONE DIMENSIONAL UNITS. SQUARED AND CUBED UNITS DO NOT WORK...USE DIMENSIONAL ANALYSIS.**

*Example: 55 centimeters = ? kilometers*

*Step 1: Figure out how many places to move the decimal. King Henry Died By Drinking... – that's six*

*places. (Count the one you are going to, but not the one you are on.)*

*Step 2: Move the decimal five places to the left since you are going from smaller to larger.*

$$55 \text{ centimeters} = .00055 \text{ kilometers}$$

*Example: 19.5 kilograms = ? milligrams*

*Step 1: Figure out how many places to move the decimal. ... Henry Died By Drinking Chocolate Milk –*

*that's six places. (Remember to count the one you are going to, but not the one you are on.)*

*Step 2: Move the decimal six places to the right since you are going from larger to smaller. In this case*

*you need to add zeros.*

$$19.5 \text{ kilograms} = 19,500,000 \text{ milligrams}$$

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

1. 1200 kilograms = ? milligrams
2. 14000 millimeters = ? meters
3. 670 hectometers = ? centimeters
4. 6544 liters = ? milliliters
5. .078 kilometers = ? meters
6. 17 grams = ? kilograms