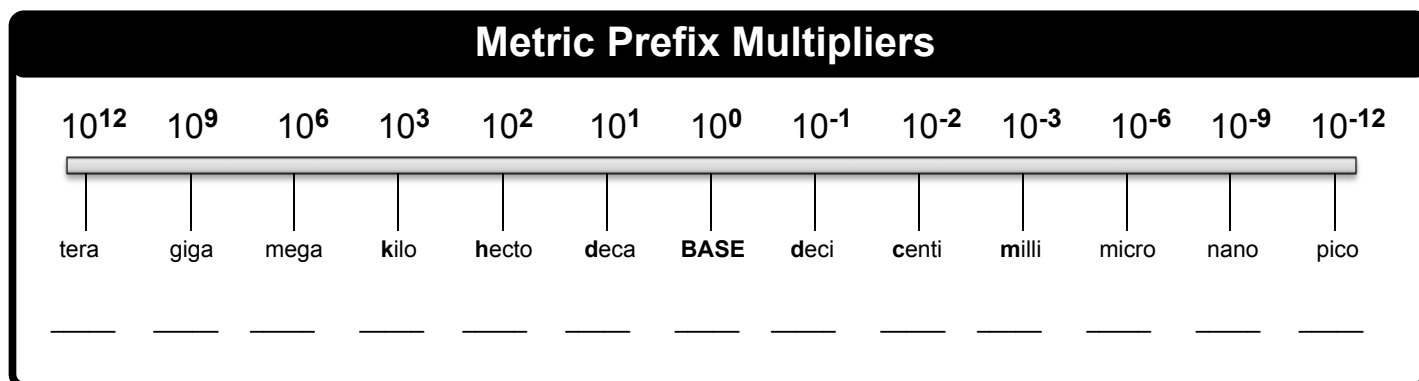


CONCEPT: METRIC PREFIXES

- **Metric Prefixes** are modifiers that are multiples of _____.



MEMORY TOOL

The **G**reat **M**onarch **K**ing **H**enry's **D**aughter **B**arbara **d**rinks **c**hocolate **m**ilk **μ**til **n**ine **p**m



- The metric prefixes act as "labels" that can be placed in front of various base units.

Metric Prefixes			
Base Units	Metric Prefixes	Base Units	Metric Prefixes
L	___ L	mol	___ mol
s	___ s	A	___ A

EXAMPLE: Convert the following value to the desired units: 694 kg to μg

STEP 1: If the given value has a **metric prefix** then convert it to the _____ unit.

- ☐ In order to cancel out units always make sure they are on opposite levels.
- ☐ Always place the coefficient _____ on the side with the **metric prefix**.

STEP 2: If necessary, convert the _____ unit to a new **metric prefix**.

CONCEPT: METRIC PREFIXES

PRACTICE: Which quantity in the following pair is smaller?

155 pm or 7.8×10^{-9} cm

PRACTICE: Use the prefix multipliers to express each measurement without any exponents.

a) 32×10^{-13} L

b) 7.3×10^6 g

c) 18.5×10^{11} s

PRACTICE: Use scientific notation to express each quantity with only the base unit.

a) 83 μm

b) 193 kg

c) 2.7 mmol

PRACTICE: If a room has a volume of $1.15 \times 10^8 \text{ cm}^3$, what is the volume in km^3 ?