Purpose: SEPTEMBER 16

How do we convert mg to Mg?

WARMUP :

"My object is a _____."

"I estimate its mass is _____ grams."

(Take out an object from your back that you are willing to weigh in front of the class.)

(If a nickel is 5 grams, estimate the mass of your object. We will weigh your object for real using our class scale.)

1. **Chemists measure things using only the metric system.**
   There are 3 BASE UNITS that we use in chemistry:

   Mass is measured in grams (g)
   Length is measured in meters (m)
   Volume is measured in liters (L)

   Example: this room is 3 m tall

2. **Memorize* these amounts:**

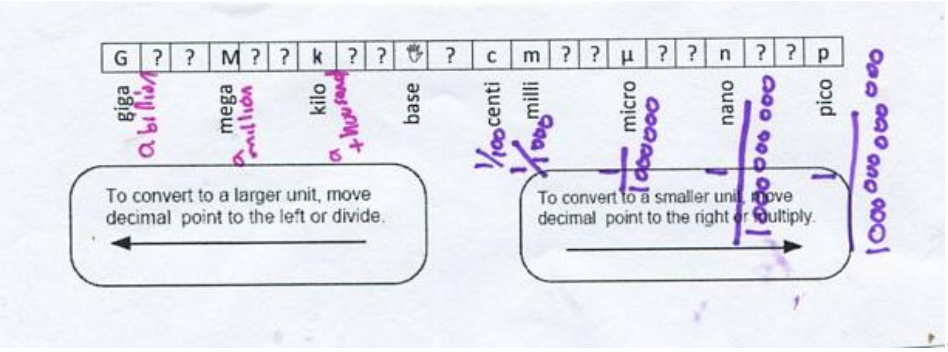
- **A nickel is about 5 g**
- **Fingertip to nose is about 1 m**
- **A can of soda is about 1/3 of a liter**

3. **The prefixes for units:**

example: millimeters, gigameters

Convert this	into
330. m	gigameters .000000330 gigameters
1234. km	megameters 1.234 megameters
3.14 Kilo liters	nanoliters 3.140000000000.

*Important: With the aid of the following strip of paper you should be able to do conversions between metric units such as milliliers converted to picoliters, nanograms converted to centigrams, millimeters converted into kilometers. .



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4. **The first letter is a prefix, the second letter is the base unit:**

mL	milliliters	**Mm**	megameters
GL	gigaliters	**pg**	picogram
Gg	gigagrams	**µL**	microliter
µm	micrometers	**ML**	megaliters
nm	nanometers	**pg**	picograms

5. **Rounding rules:**

If the last ~~second~~ digit is 5 or greater, round up. (don't forget)

examples:

859 rounded to tens: 860

3.348 rounded to tenths: 3.3