

Name _____

Period _____

a. **MEASUREMENT IN THE LABORATORY.** The most common system of measurement used by scientists is the **metric system**. The metric system is based on multiples of ten. Distance (length) is measured in units called **meters (m)**, weight is measured in **grams (g)**, and volume is measured in **liters (L)**. Temperature is measured in **Celsius or centigrade degrees (°C)**.

1. The most common system of measurement used by scientists is called the _____.
2. Meters are used to measure _____, weight is measured in units called _____, and _____ is measured in units called liters.

b. **PREFIXES.** Prefixes are words that are used with the basic units of the metric system. Prefixes are placed in front of the unit to show how large or small the unit is.

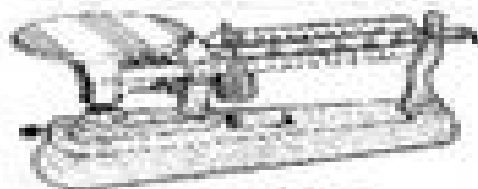
| PREFIX | NOTE | EXAMPLE |
|-----------|----------------------------|-------------------------------------------|
| centi (c) | 1/100 of the unit (0.01) | A centimeter (cm) is 1/100 of a meter (m) |
| milli (m) | 1/1000 of the unit (0.001) | A milligram (mg) is 1/1000 of a gram (g) |
| kilo (k) | 1000 of the unit | A kilometer (km) is 1000 meters (m) |

1. _____ are words that are placed in front of the basic units of the metric system.
2. Centi means _____ of the unit, milli means _____ of the unit, and kilo of a unit has the prefix _____.
3. Complete the following equations.

| | |
|-----------------------------------|-------------------------------|
| a. 1 kilogram = _____ grams | c. 1 milliliter = _____ liter |
| b. 1000 meters = _____ kilometers | d. 1 gram = _____ kilograms |
4. A centimeter is equal to

| | |
|----------------------|-----------------------|
| (1) 0.001 of a meter | (3) 1/1000 of a meter |
| (2) 100 meters | (4) 1000 meters |

c. **MEASURING WEIGHT (MASS).** Materials are weighed in the laboratory by using a **balance**. The balance compares the weight (mass) of the object to be weighed with the weight of known objects called **weights**. Below is an example of one type of balance found in biology laboratories. You will find many other types of balances.



a balance

1. A balance found in the laboratory to measure _____.
2. A balance compares the weight (mass) of _____ with the weight of _____.