

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)**.

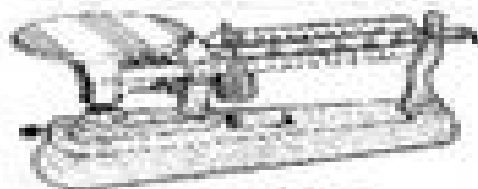
1. The most common system of measurement used by scientists is called the \_\_\_\_\_.
2. Meters are used to measure \_\_\_\_\_, weight is measured in units called \_\_\_\_\_, and \_\_\_\_\_ is measured in units called liters.

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
  - b. 1000 meters = \_\_\_\_\_ kilometers
  - c. 1 milliliter = \_\_\_\_\_ liter
  - d. 1 gram = \_\_\_\_\_ kilogram
4. A centimeter is equal to
  - (i) 0.001 of a meter
  - (ii) 100 meters
  - (iii) 1/1000 of a meter
  - (iv) 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 \_\_\_\_\_.