

## Test Review: Module 1

Things to know:

The difference between mass and weight

How to convert units

Know the conversion factors for Kilo, centi, and milli.

Know that  $1 \text{ mL} = 1 \text{ cm}^3$

The difference between accuracy and precision

How to measure lengths and liquids accurately

How to calculate density, mass, or volume using the density formula

How to write numbers in scientific notation

How to determine significant figures

The lab safety rules

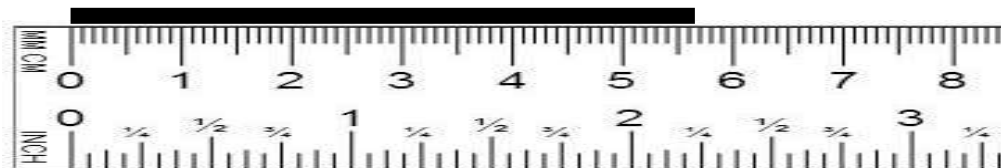
The names of the lab equipment

### Module 1 Test Practice

1. A block of metal is 15.27 cm long. Students measure the block and get the data listed below.  
14.269145 cm, 15 cm, 15.3 cm
  - a. Which measurement is most accurate?
  - b. Which measurement is most precise?
2. The densities of several liquids are listed below. If all the liquids were poured into one beaker, what would be the order of the liquids from top to bottom?

| Liquid | Density (g/mL) |
|--------|----------------|
| A      | 0.78           |
| B      | 1.20           |
| C      | 0.89           |
| D      | 1.07           |

3. Measure the length of the line in cm:



4. Are liquids in a graduated cylinder measured from the sides of the meniscus or the bottom of the meniscus?

5. What's the difference between mass and weight?

6. Convert:

a. 80 cm to meters

b. 340 g to kg

c. 5.6 L to ml

d. 0.0035 kg to mg

e. 30.0 cm to inches

f. 16 L to gallons

g. 500 cm<sup>3</sup> to L

1 inch = 2.54 cm

1 gallon = 3.78 Liters

7. What is the volume in cm<sup>3</sup> of a fish tank that is 50 cm by 60 cm by 80 cm? What is the tank's volume in Liters?

8. The mass of a ring is 35.2 grams. Its volume is 1.25 mL. Find its density.

9. The volume of a rock is 8.3 cm<sup>3</sup> and its density is 4.51 g/cm<sup>3</sup>. Find its mass.

10. The density of a liquid is 0.85 g/mL and its mass is 42.0 g. Find its volume.

11. Convert the numbers to scientific notation:

a. 678,000

b. 0.00024

12. Convert the numbers to decimal notation:

a.  $9.17 \times 10^{-4}$

b.  $2.356 \times 10^5$

13. Find the number of significant figures in each number:

a. 4500

b. 50073.0

c. 0.00001440

Honors: Carry out the following operations and express the answers with the appropriate number of significant figures:

14.  $24.7 + 8.992$

15.  $(84.01)(3.46)$

16. Glass has a density of 2.5 g/cm<sup>3</sup>. A glass cube has a mass of 800.0 grams. How long is one side of the cube?