Bell Ringer #2:

Socrative Room Name:
LEVEL70WARRIOR

Algebra Practice

Agenda

Bell Ringer
Algebra Diagonistic Quiz
Discuss Matter, Density and Measurements
Begin Density Lab
Exit Ticket

Algebra Homework

Matter

Definition:

Matter is anything that has mass and takes up space.

Student Examples:

Please look around you and write down three examples of matter.

Non matter:

What are things that are not matter?

Mass:

The mass of an object is a measure of the amount of matter the object contains.

How is mass measured?

An objects mass is measured using the SI unit of kilogram (kg).

How is mass different than weight?

Weight is a measure of the force exerted on an object by gravity.

http://www.nist.gov/pml/wmd/metric/mass.cfm

Volume:

The volume of an object is a measure of the space occupied by the object.

How is volume measured?

An objects volume is measured using the SI unit of cubic meter (m^3).

Measurement:

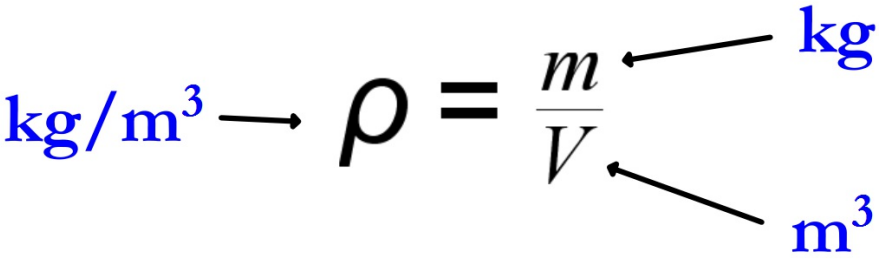
A measurement is a quantity that has both number and unit.

http://www.nist.gov/pml/wmd/metric/volume.cfm

Density:

The density is the ratio of the mass of an object to its volume.

Density is a property that depends only on the composition of a substance, not the size of the sample.



$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

https://en.wikipedia.org/wiki/Orders_of_magnitude_(density)

Example Density Calculations:

An aluminium bar weighs 27.0 g and has a volume of 10 cm^3. What is its density?

Calculate the density of 1.03 cm^3 of uranium with a mass of 6.11 g.

More Example Density Calculations:

Another aluminium bar weighs 55.5 g and we just calculated the density of Aluminium to be 2.7 g/cm^3. What is its volume?

Another way to determine the volume of an object is to do water displacement. If a graduated cylinder has 50 mL of water in it initially and a marble is gently submerged into the water. The level of the water subsequently rose up to 60 mL. What is the density of the marble if its mass is 28 g.

Density Lab:
Safety Contracts
Lab Report Outline
Safety Glasses

$$1)\ \text{Volume} = \frac{\text{Mass}}{\text{Density}}$$

$$2)\ \text{Mass} = \text{Density} \cdot \text{Volume}$$

$$3)\ \text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

Name _____

Period _____ Date _____

CHEMISTRY I
DENSITY LAB

Introduction

In this lab you will determine the density of two different blocks, two irregular objects, and experimentally determine the density of water. Density is the ration between an objects mass/volume. The density of an object does not change with size or shape and can be used to help identify objects.

Objectives

- Determine the density of several items.
- Graphically determine the density of water.
- Write up a lab report.

Exit Ticket #2:

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Density Problems