TEST REVIEW

DEFINITIONS

MATTER

ENERGY

PE

KE

ACCURACY

PRECISION

CLASSIFICATION OF MATTER

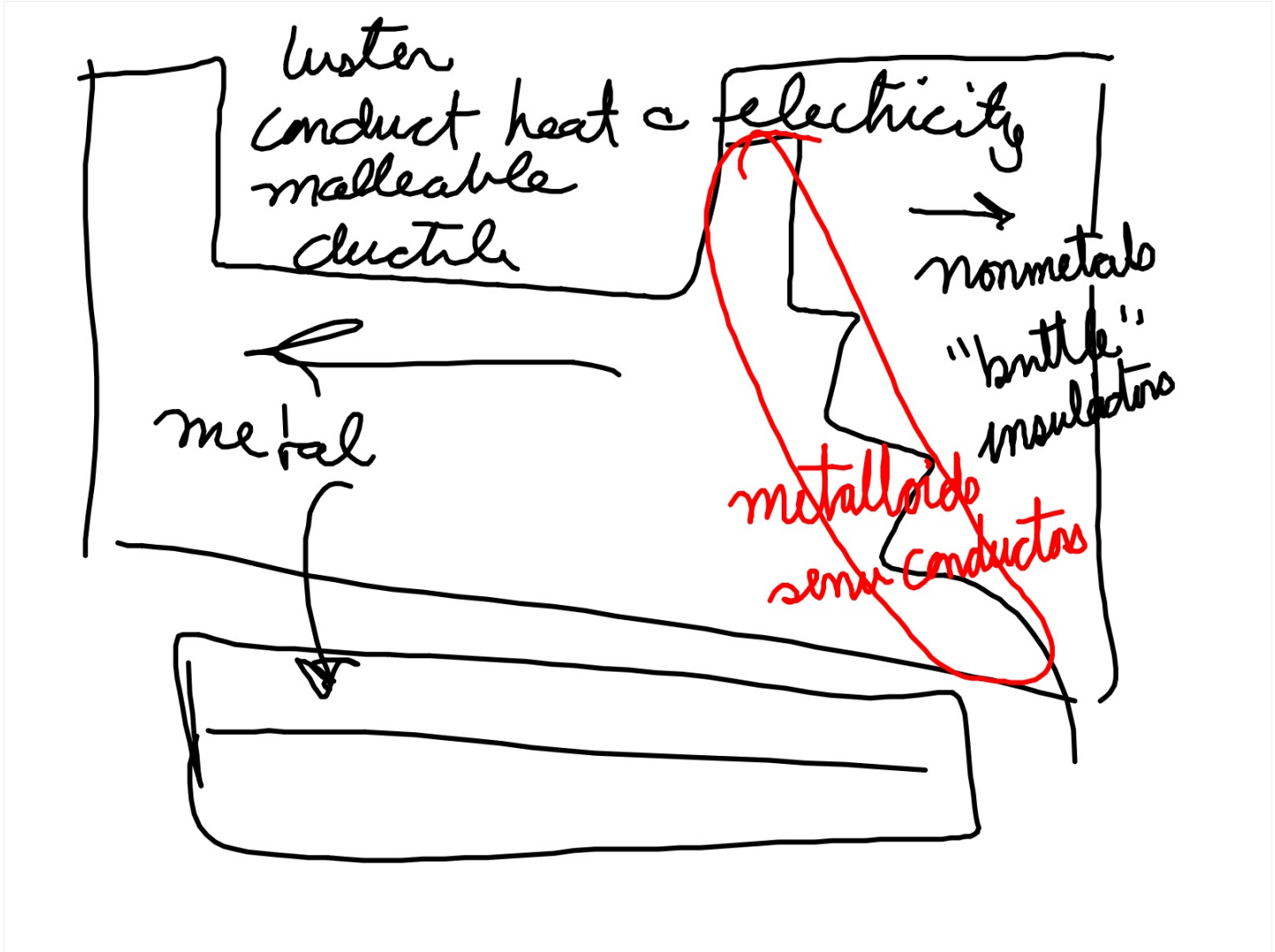
KINDS OF ENERGY

COMPOUNDS VS ELEMENTS

MIXTURE VS PURE SUBSTANCE

HOMOGENEOUS VS HETEROGENEOUS

(solutions)


luster
conduct heat & electricity
malleable
ductile
nonmetals
"brittle"
insulators
metal
metalloids
semiconductors

PHYSICAL PROPERTIES

DESCRIBE MATTER

Color, LENGTH, melting point

qualitative, quantitative

CHEMICAL PROPERTIES

BURNING, CORROSION (RUSTING)

PHYSICAL CHANGES

CHANGE APPEARANCE

$s \rightarrow \ell \rightarrow g$

SOLUTION PROCESS (dissolving)

CHEMICAL CHANGE

FORMING SOMETHING DIFFERENT

EVIDENCE OF CHEMICAL CHANGE

RELEASE A GAS

GIVES OFF HEAT

Color CHANGE

FORM A PRECIPITATE

PRODUCE ELECTRICITY

MEASUREMENTS

SI TO SI CONVERSION

$35.\ cm \times \frac{10^{-2}}{10^{0}} = 0.35\ m$

$120.\ kg \times \frac{10^{3}}{10^{-3}} = 120{,}000{,}000\ mg$

AMERICAN TO SI

$4 O_2 = \frac{120}{\left(\frac{4\,O_2}{1}\right)\left(\frac{30g}{1\,O_2}\right)}\ g$

$(1 O_2 = 30g)$

density

$$d = \frac{m}{v} \qquad m = d \times v, \quad v = \frac{m}{d}$$

TEMPERATURE

$$K = {}^{\circ}C + 273$$

$1.70 \pm 0.01\,cm$

$$\frac{1\,cm}{10} = 0.1\,cm$$

$$\times 0.1$$

$$\Delta C = 0.01\,cm$$

$$\% \text{ error} = \frac{|\text{ob} - \text{acc}|}{\text{acc}} \times 100$$

ex:
a student found the density of gold to be $19.6\ g/cm^3$.
The accepted density is $19.3\ g/cm^3$.
What is the % error?

$$\% \text{ error} = \frac{|19.6\ g/cm^3 - 19.3\ g/cm^3|}{19.3\ g/cm^3} \times 100$$