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Matter

S. 251

I. Properties of Matter

A. Properties: characteristics that help us identify matter or classify matter

1. Physical Properties: those properties that can be observed without changing the make-up or identity of matter.

a. Density

the amount of matter in a given volume (mass / volume)

or

(mass ÷ volume)

b. Ductility

the ability to be pulled into a thin strand, like wire

c. malleability

the ability to be pressed or pounded into a thin sheet

d. Boiling Point

the temperature at which a substance changes from a liquid to a gas.

e. Melting Point

the temp. at which a substance changes from a solid to liquid

f. Electrical Conductivity how well electricity flows through a substance

g. Solubility

ability to dissolve IN another substance

2. Chemical Properties: describe matter based on its ability to change into a new kind of matter with different properties

Examples:

a. Flammability

capable of burning in presence of oxygen

b. Rusting

iron reacts with oxygen to produce iron oxide

c. Reactivity to acid or water

more examples of chemical properties

B. Physical and Chemical Changes

1. Physical Change: when the physical properties change BUT NOT CHEMICAL PROPERTIES

* atomic makeup has NOT changed nor ~~arr~~ chemical arrangement

2. Chemical Change: chemical properties change PRODUCING NEW SUBSTANCES