

Grade 8 - Unit 1 – Mix and Flow of Matter Concepts

W.H.I.M.I.S.
Safety



Lab Procedures
&
Techniques

Properties and Classification

All Matter

Pure Substances
- contain only one type of particle
- can exist in three states of matter: solid, liquid, and gas

Elements

- examples:
iron, gold
oxygen

Compounds

- examples:
water, salt,
sugar

Mixtures
- contain two or more pure substances

Homogeneous
(solutions)

- appear to be
one substance

- particles of
different substances
are intermingled

- examples:
vinegar,
clear air

Heterogeneous
(mechanical mixtures)

- two or more
parts can be
seen

- different kinds
of particles
stay together

- examples:
soil, blood,
concrete

APPLICATION

Paper
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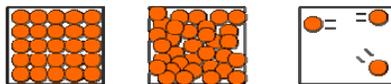


THE PARTICLE MODEL OF MATTER

DILUTION

Concentration

SATURATION



Solubility



SOLUTE SOLVENT

Temperature - Surface Area - Agitation

Density

Buoyancy

Plimsoll Line
Hot Air Balloons

Compression

Pressure – Pascal's Law

$$p = F / A$$

Hydraulics (liquid)

Pneumatics (gas)

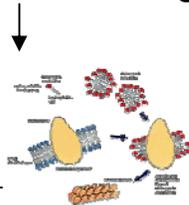
Hydraulic Lift
Pressure Washer

Jackhammer
Air Brakes
Dentist Drill

Viscosity

Flow Rate

Solubility-based Technologies



DETERGENT

SUBMARINE



Fluid Devices
SUBMERSIBLE



Transportation of Fluids

PUMPS & VALVES

BATHYSCAPH

