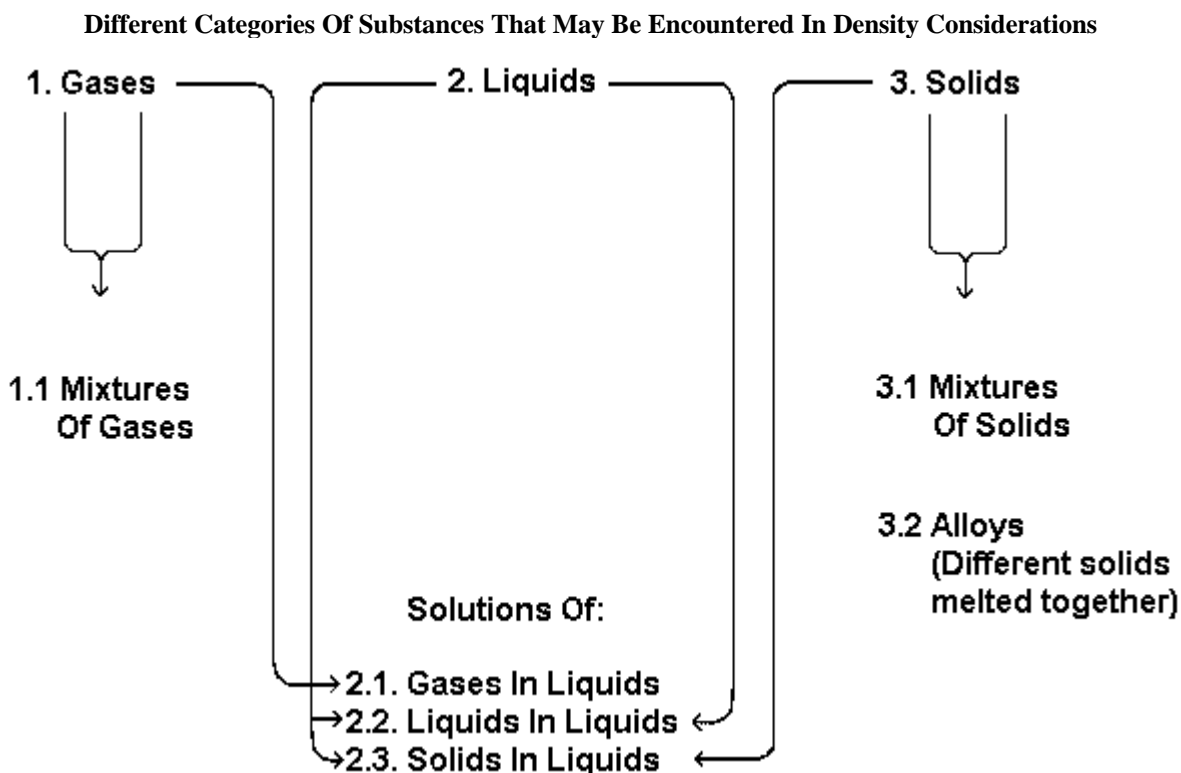


A FRAMEWORK/OUTLINE OF DENSITY TOPICS

The subject of density is rarely, if ever, presented in a logical framework in textbooks. Instead there are scattered discussions of density of solids, solutions, buoyancy, hot air balloons, etc. We shall attempt here to give you, the teacher, the framework needed to present density concepts in a more organized way to your students.



Examples

It seems unnecessary to give examples of (1.) gases, (2.) liquids and (3.) solids, but some examples of mixtures, solutions, and alloys might be useful.

1.1. Mixture Of Gases

- Air: Composed mainly of nitrogen and oxygen gases
- Gas mixtures at the site of ignition in heating devices or in internal combustion engines: Composed of air and a hydrocarbon.

2.1. Solutions Of Gases In Liquids

- Carbonated drinks: Carbon dioxide gas dissolved in water
- Aerated water in fish tanks: Oxygen gas dissolved in water

2.2. Solutions Of Liquids In Liquids

- Alcoholic beverages: ethyl alcohol dissolved in water
- “Coolant” in automobile radiators: antifreeze mixture (mostly ethylene glycol) dissolved in water

2.3. Solutions Of Solids In Liquids

- Ocean water: Salts (mainly sodium chloride) dissolved in water
- Sweetened beverages: Sugar (or a sugar substitute) dissolved in water

3.1. Mixtures Of Solids

- Dirt (or soil): Disintegrated rock mixed with dark organic material produced by the decomposition of vegetable and/or animal matter.
- Cake mixes: Mixture of sugar, flour, baking soda, and other solid ingredients.

3.2. Alloys

- Brass: Composed of more than 60% copper and a lesser percentage of zinc
- U.S. silver coins: Composed of 90% silver and 10% copper