Fall 25:
Chem 001A Week 1

Danny Topete

October 3, 2025

1 Mon Lecture: Sept 29th

1.1 Classifications of matter

- Physical form of matter is composed by state and composition

States:

1. Solid
2. Liquid: incompressible
3. Gas

- Different substances corresponding to different arrangements of atoms
- Different arrangements of atoms make completely different things

Bonds

- **Chemical bonds are what holds bonds together**

Classifications of matter

- **Pure substance: constant composition**
- **All speciments of this same substance has the same makeup and properties**
- **Elements can't be broken down into simpler substances**
- **Pure substance are either an element or a compound**
- **Compounds can be broken down into simpler substances**

Mixtures

- **Mixtures are composed of two or more types of matter that can be present or varying.**

- **Two classes of mixtures, heterogeneous and homogeneous**
- **Hetero mix: variable composition**
- **Homo mix: (also called solution) has a uniform composition**

Get on OLI today, (should be $24/25) and use the resources

2 Wednesday lecture, 10/1

2.1 Physical vs chemical changes

- **Chemical changes change chemical properties such as**
  - **Reactivity**
  - **Flammability**
  - **Corrosive**
- **Chemical Changes**
  -

2.2 SI Unit stuff...

- **Density**
  - **Density** $= \frac{mass}{volume}$
  - **Density is an intensive property, independent of the amount of substance we have**
  - **Ratio of two extensive properties, it becomes intensive**
  - **Density is constant(intensive), mass and volume is variable(extensive)**
- **When we are writing digits, the last digit is not very certain, but the two digits in front are certain. 4.57, the 4.5 is certain, then 0.07 is not very certain.**
  - **Ex: Calculating the miniscus, you can add what ever sounds right for the last digit, they are within margin of error**

3 Fri lecture: 10/3

- **I was told this is all unit conversion...**

3.1 Reliability Measurements

- **Last figure is estimated, all before are certain**
- **Exact numbers, have no uncertainty.**

  Applies to discrete objects, you can imagine, 3.0000... atoms when 3 atoms and present