

Unit 2: Matter and Energy Topic Review List

Atoms – elements / molecules – compounds

Conservation of mass

Conservation of energy
transformation

Forms of energy
kinetic energy
potential energy

Classification of matter
pure substance
 element
 compound
mixture
 homogeneous mixture (solutions)
 heterogeneous mixture
allotropes
alloys
solutions
suspensions

Chemical vs. physical properties / changes

Intensive vs. extensive properties

Separating mixtures
decant
filter
distillation
centrifuge (density)
magnetism

Concept of the mole
Avogadro's number ($1 \text{ mol} = 6.02 \times 10^{23} \text{ atoms}$)
1 mole of element = molar mass shown on Periodic Table
Calculations

Density
 $D = M/V$
Density Triangle
Typical Units: g/ml, kg/L, g/cm^3
Calculations