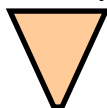


Grade 9 - Unit 2 –Matter and Chemical Change Concepts

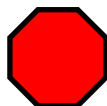
Symbol Shapes



caution



warning



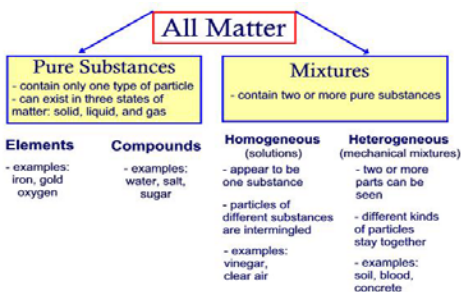
danger

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

Hazardous
Safety
Symbols



Lab
Procedures
&
Techniques



Chemical Change / Physical Change

New Substance Forms

Chemical properties

- Reaction with acids
- Reaction with water
- Ability to burn
- Behaviour in air
- Reaction to heat

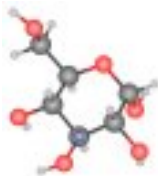
Change of State

Physical Properties

- colour
- lustre
- hardness
- density
- conductivity
- melting point
- boiling point
- malleability
- ductility
- crystal shape

Formation of Compounds

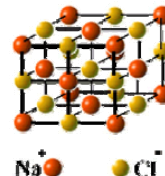
Molecular Compounds



Glucose

Molecular compounds have weak attractions between molecules

Ionic Compounds



Ionic compounds form when ions attract

Chemical Names

Naming Chemical Compounds (Rules)

Theories of Matter

- Stone Age Chemists
- Gold/Copper
- Iron Age
- Alchemy
- Robert Boyle
- Antoine Lavoisier
- Atomic Theory (John Dalton)
- JJ Thomson
- Hantaro Nagaoka
- Ernest Rutherford
- Neils Bohr
- Modern Chemists



Atomic Models

- Billiard Ball
- Raisin Bun
- Planetary
- Nucleus
- Electron Orbit
- Quantum Model

Elements & the Periodic Table

Patterns – Dmitri Mendeleev

Symbol – Name – Atomic Number
Atomic Mass – Ionic Charge
Groups – Periods

Chemical Reactions

(Reactants → Products)

Endothermic (takes in energy)

- cold packs
- corrosion

Exothermic (gives off energy)

- fire (combustion)
- cellular respiration

Reaction Rate (Speed)

Factors Affecting Reaction Rate

- Catalysts
- Concentration
- Surface Area
- Temperature