

<p style="text-align: center;">Science 10 Unit A Chemistry Concept Checklist</p>

- Describe the basic particles that make up the underlying structure of matter, and investigate related technologies
 - Identify how humans have used chemicals to meet basic needs, historically
 - Outline the development of the atomic model
 - Identify presence of
 - protons
 - neutrons (nucleons)
 - electrons
 - Recognize work of
 - Dalton
 - Thomson
 - Rutherford
 - Bohr
 - *Chadwick*
 - *de Broglie*
 - Identify examples of chemistry-based careers in the community
- Explain, using the periodic table, how elements combine to form compounds, and follow IUPAC guidelines for naming ionic compounds and simple molecular compounds
 - Awareness of WHMIS guidelines
 - Demonstrate safe practices
 - handling
 - storage
 - disposal of chemicals
 - in the laboratory
 - at home
 - *in the workplace*

- Explain the IUPAC system of naming compounds
- Use the periodic table
 - Explain why elements combine to form compounds in specific ratios
 - Predict formulas
 - Write names for
 - ionic compounds
 - molecular compounds
 - common acids
- Classify based on their properties
 - ionic and molecular compounds
 - acids and bases
 - conductivity
 - pH
 - solubility
 - state
- Predict solubility of an ionic compound
Relate the molecular structure of simple substances to their properties
- Outline the issues related to personal and societal use of potentially toxic or hazardous compounds
 - *health hazards due to excessive consumption of alcohol and nicotine*
 - *exposure to toxic substances*
 - *environmental concerns related to the handling, storage and disposal of heavy metals, strong acids, flammable gases, volatile liquids*
- Identify & classify chemical changes, and write word & balanced chemical equations for significant chemical reactions, as applications of Lavoisier's law of conservation of mass
 - Provide examples of process that use chemistry
 - household
 - commercial
 - industrial processes

- Identify chemical reactions that are significant in societies
- Describe the evidence for chemical changes
 - energy change
 - formation of a gas or precipitate
 - colour or odour change
 - change in temperature
- Differentiate between endothermic and exothermic chemical reactions
- Classify and identify categories of chemical reactions, and predict products when given reactants
 - formation (synthesis)
 - decomposition
 - hydrocarbon combustion
 - single replacement
 - double replacement
- Translate word equations to balanced chemical equations and vice versa for chemical reactions that occur in living and non-living systems
- Define the mole as the amount of an element containing 6.02×10^{23} atoms (Avogadro's number)
 - apply the concept to calculate quantities of substances made of other chemical species
- Interpret balanced chemical equations in terms of moles of chemical species, and relate the mole concept to the law of conservation of mass