ASc14 – Exploring Chemistry

Skills

- Collecting and using information from different sources, following instructions when using different types of scientific instruments, using information to reach conclusions.

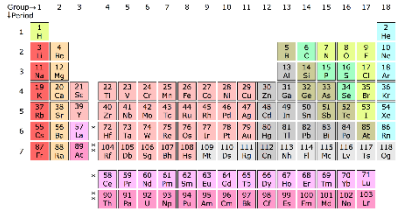
Key concepts of chemistry

- Equations e.g. how scientists use symbols and formulae to represent elements, ions and compounds, examples of simple word equations.

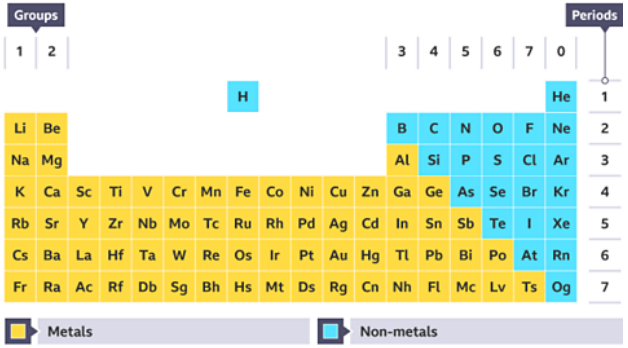
$$N_2 + 3H_2 \rightarrow 2NH_3$$

Reactants Product

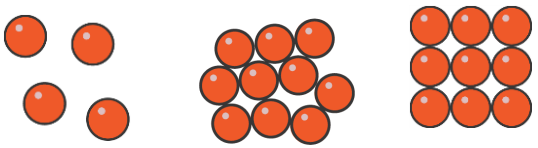
- Periodic table, e.g. purpose of the periodic table, groups that share similar characteristics, know symbols for common elements.



- Metals and non-metals e.g. differences between metal and non-metal e.g. shiny/dull, high melting point/low melting point, malleable/brittle; position on the periodic table.



- Solids, liquids and gases e.g. differences between solids, liquids and gases; how solids become liquid and then a gas.

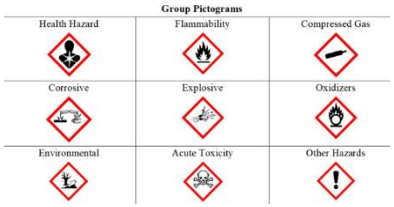


- Scientific principles, e.g. evaporation, solutions, suspensions, solvents, solubility, melting point, boiling point, acid, alkali, pH.

Safe use of scientific apparatus

- Scientific apparatus, to include:
  - glassware, e.g. test tube, boiling tube, conical flask, beaker, watch glass, stirring rod
  - measuring equipment, e.g. measuring cylinder, dropping pipette, spatula, balance, thermometer
  - other equipment, e.g. Bunsen burner, hot plate, water bath, tripod, gauze, heat resistant mat, filter paper, filter funnel, test-tube rack, test-tube holder, kettle, indicator paper, pestle and mortar, petri dish, white tile.

- Safety, to include: using safety equipment, e.g. goggles, spectacles, protective clothing, behaving safely and safe handling of chemicals.
- Risk assessment, e.g. identifying potential hazards and ways to minimise risk.
- Hazard symbols, e.g. what they mean and typical hazards, information about how to work safely.



- Housekeeping, e.g. cleaning apparatus, correct storage, disposal of waste products, reporting damaged apparatus.