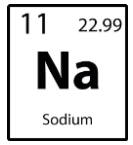
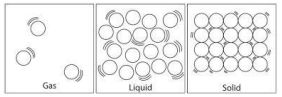
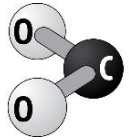
Year 10 Learning Journey Chemistry

St Michael's Catholic Academy Science







C4 Chemical changes

1. Reactions of acids with metals
2. Neutralisation of acids and salt production
3. Soluble salts
4. The pH scale and neutralisation
5. Strong and weak acids (HT only)
6. Metal oxides
7. The reactivity series
8. Extraction of metals and reduction
9. Oxidation and reduction in terms on electrons (HT only)
10. Electrolysis of molten ionic compounds
11. Using electrolysis to extract metals
12. Electrolysis of aqueous solutions
13. Representation of reactions at electrodes as half equations (HT only)

End of Topic Assessment

C5 Energy changes

1. Energy transfer during exothermic and endothermic reactions
2. Reaction profiles
3. The energy change of reactions (HT only)
4. ***Cells and batteries (SS Chemistry)***
5. ***Fuel cells (SS Chemistry)***

End of Topic Assessment

YEAR 11

YEAR 10

C3 Quantitative chemistry

1. Conservation of mass and balanced chemical equations
2. Mass changes when a reactant or product is a gas
3. Relative formula mass
4. Moles (HT only)
5. Amounts of substances in equations (HT only)
6. Using moles to balance equations (HT only)
7. Limited reactants (HT only)
8. Concentration of solutions
9. ***Using concentrations of solutions in mol/dm^{-3} (SS Chemistry)***
10. ***Use of amount of substance in relation to volumes of gases (SS Chemistry)***
11. ***Percentage yield / Atom economy (SS Chemistry)***

End of Topic Assessment

C2 Bonding structure and properties

1. The states of matter
2. State symbols
3. Chemical bonds
4. Ionic bonding
5. Ionic compounds
6. Properties of ionic compounds
7. Covalent bonding
8. Properties of small molecules
9. Giant covalent structures
10. Diamond
11. Graphite
12. Graphene and fullerenes
13. Metallic bonding /Properties of metals and alloys
14. ***Sizes of particles and their properties (SS Chemistry)***
15. ***Uses of nanoparticles (SS Chemistry)***

End of Topic Assessment

C1 Atomic structure and the periodic table

1. Overview of the Periodic Table
2. Atoms, elements and compounds
3. Mixtures: separation techniques
4. The development of the model of the atom
5. Relative electrical charges of subatomic particles
6. Size and mass of atoms
7. Relative atomic mass (revisit in C3) / isotopes
8. Electronic structure
9. The Periodic Table / Development of the periodic table
10. Metals and non-metals
11. Group 0 / Group 1 / Group 7
12. ***Transition metals (SS Chemistry)***

End of Topic Assessment