

# **SL Chemistry Terms Lists**

## Experiment Design (Topic 11)

1. Independent variable
2. Dependent variable
3. Uncertainty
4. Percentage uncertainty
5. Absolute uncertainty
6. Propagation of uncertainties
7. Accuracy
8. Precision
9. Systematic error
10. Random error
11. % error
12. Significant figure
13. SI unit
14. Best-fit line
15. Degree of saturation/Index of Hydrogen deficiency (IHD)
16. MS
17.  $^1\text{H}$  NMR
18. IR

## Quantitative (Topic 1)

1. Physical properties
2. Chemical properties
3. Homogeneous mixture
4. Heterogeneous mixture
5. State symbol
6. 6 changes of state
7. IUPAC
8. Freeze-drying
9. The mole
10. Avogadro's number
11. Relative atomic mass
12. Relative formula/molecular mass

13. Molar mass
14. Solution
15. Solute
16. Solvent
17. Molarity (M)
18. 3 Concentration units
19. Standard solution
20. Titration
21. Mole ratio
22. Ideal gas
23. Limiting reagent
24. Excess reagent
25. Theoretical yield
26. % yield

## Thermochimistry (Topic 5)

1. Heat
2. Temperature
3. Exothermic
4. Endothermic
5. Enthalpy
6. Enthalpy change
7. Enthalpy change of formation
8. Enthalpy change of combustion
9. Enthalpy level diagram
10. Calorimetry
11. Calorimeter
12. Specific heat (capacity)
13. Average bond enthalpy
14. Hess's law
15. Ozone
16. Ozone depletion

## Kinetics Terms List (Topic 6)

1. Collision Theory
2. Rate of reaction
3. Ways to measure rate
4. Maxwell-Boltzmann distribution
5. Activation Energy
6. Activated complex
7. Catalyst

## Equilibrium & Acid/Base (Topic 7 and 8)

1. Equilibrium
2. Closed system
3. Equilibrium law
4. Equilibrium constant K
5. Reaction Quotient Q
6. LeChatelier's Principle
7. Fritz Haber
8. Strong/weak acid/base
9. Dissociation/Ionization
10. pH
11. Bronsted-Lowry acid
12. Conjugate acid
13. Proton ( $\text{H}^+$ )
14. Hydronium ( $\text{H}_3\text{O}^+$ )
15. Amphoteric
16. Amphiprotic
17. Acid/base indicator
18. Acid Rain

## Atomic Structure (2) & Periodicity (3)

1. Isotope
2. Mass spectrometer/spectrum
3. Nuclear symbol notation
4. Isotope abundance
5. Radioisotope
6. Positron emission tomography (PET)
7. Continuous spectrum
8. Line spectrum
9. Emission spectrum
10. Emission spectrum of hydrogen
11. Spectroscope
12. Main energy level/shell
13. Sub-levels
14. Orbitals
15. Pauli exclusion principle
16. Hund's rule
17. Heisenberg Uncertainty Principle
18. Electron arrangement/configuration
19. Condensed electron configuration
20. Group
21. Period
22. Alkali metal, halogen, noble gas, transition metal, metalloid, lanthanide, actinide, non-metal
23. Electronegativity
24. Electron affinity
25. Ionization energy
26. Shielding
27. Effective nuclear charge ( $Z_{\text{eff}}$ )

## Bonding (Topic 4)

1. Cation
2. Anion
3. Ionic bond
4. Electrostatic attraction
5. Lattice structure
6. 7 polyatomic ions to know
7. Covalent bond
8. Bond polarity
9. Dipole
10. Lewis structure
11. Octet rule
12. Incomplete octet
13. VSEPR theory
14. VSEPR shapes with 1-4 electron domains: linear, bent, trigonal planar, tetrahedral, trigonal pyramid
15. Electron domain
16. Electron domain geometry
17. Molecular geometry
18. Bond angle
19. Resonance
20. Coordinate covalent (dative) bond
21. Intermolecular force
22. London-dispersion force
23. Dipole-dipole force
24. Hydrogen bond
25. van der Waals force
26. Network covalent/giant covalent bond
27. Allotrope
28. Empirical formula
29. Molecular formula
30. Percent Composition
31. Hydrate

32. Metallic bond
33. Alloy
34. Delocalized electrons

## Redox (Topic 9)

1. Oxidation number
2. Oxidation
3. Reduction
4. Oxidizing agent
5. Reducing agent
6. Half equation
7. Activity/Reactivity series
8. Winkler Method
9. Biologic Oxygen Demand (BOD)
10. Corrosion
11. Galvanization
12. Spontaneous redox reaction
13. Voltaic cell
14. Electrode
15. Salt Bridge
16. Anode
17. Cathode
18. Cell diagram notation
19. Electrolytic cell
20. Electrolysis

## Organic (Topic 10)

1. Homologous Series
2. Condensed Structural Formula
3. Skeletal formula
4. (Structural) Isomer
5. Saturated compound
6. Benzene
7. Organic molecule class:
  - a. Alkane/Alkene/Alkyne
  - b. Alcohol
  - c. Carboxylic Acid
  - d. Ketone
  - e. Aldehyde
  - f. Ester
  - g. Amine
  - h. Amide
  - i. Nitrile
  - j. Arene
8. Functional Group:
  - a. Phenyl
  - b. Hydroxyl
  - c. Carbonyl
  - d. Carboxyl
  - e. Carboxamide
  - f. Alkyl
  - g. Alkenyl
  - h. Alkynyl
9. Primary/Secondary/Tertiary carbon atoms
10. Complete combustion
11. Incomplete combustion
12. Bromine test/Bromine water
13. Distillation
14. Reflux
15. 2 main organic Oxidizers

16. Hydrogenation
17. Condensation reaction
18. Addition Polymer
19. Nucleophile
20. Nucleophilic substitution
21. Free radical
22. Homolytic fission
23. 3 steps of free-radical substitution

26. Active metabolites
27. Buffer
28. Henderson-Hasselbach equation
29. Ranitidine (Zantac)
30. Omeprazole (Prilosec)
31. Esomeprazole (Nexium)
32. Virus
33. Bacteria
34. Oseltamivir (Tamiflu) and Zanamivir (Relenza)
35. AIDS
36. High-level waste
37. Low-level waste
38. Antibiotic resistance
39. Antibacterial
40. Antibiotic waste
41. Green chemistry
42. Pacific Yew tree

## Drugs and Medicines (Option D)

1. Therapeutic Index
2. Placebo effect
3. LD50, ED50 and TD50
4. Therapeutic window
5. Bioavailability
6. Drug-receptor interaction
7. Synthetic drugs
8. Side effects
9. Tolerance
10. 5 methods of drug administration
11. Analgesic
12. Mild analgesic
13. Anticoagulant
14. Recrystallization
15. Characterization
16. Synergistic effect
17. Strong analgesic
18. Prostaglandins
19. Blood-brain barrier
20. Lipid
21. Opiate
22. Penicillins
23. Beta-lactam ring
24. Penicillinase
25. Antacids

