Below is a quick list of concepts that you will need to understand for the Unit 1; Chemistry of Life Exam:

Water's unique properties and how they support life.

The main elements of life and their roles in building macromolecules.

How the main elements of life cycle through the earth, atmosphere, hydrosphere (water systems), and organisms. Example, the carbon in your carbohydrate cell membrane marker was likely in the atmosphere as CO_2 at one point in time.

Functional Groups

Ionic, Covalent, and Hydrogen Bonds

Dehydration synthesis and Hydrolysis

Carbohydrates...define, recognize general structure, give functions, separate the following carbohydrates by category (glucose, fructose, galactose, sucrose, lactose, maltose, amylose (starch), glycogen, cellulose)

- -monosaccharide monomers
- -disaccharides
- -polysaccharides

Lipids...define, recognize general structure, and give functions

- -fatty acids
- -saturated
- -unsaturated
  - -cis vs. trans
  - -omega
- -monounsaturated
- -polyunsaturated
- -triglycerides

Proteins...define, recognize general structure, and give functions

- -amino acid monomers
- -primary, secondary, quaternary, and tertiary structures

Nucleic acids...define, recognize general structure, and give functions

- -nucleotide monomers
- -DNA structure, function, and location in the cell

-RNA structure, function, and location in the cell
-ATP structure and function

Experimental Design and Data Analysis
-hypothesis (alternative hypothesis) vs null hypothesis
-positive and negative controls
-mean, median, mode, range, standard deviation, standard error of the mean
-bar graphs and use of error bars