Levels of Organization and chemistry of life :

1. **Biosphere:** The sum of all living things taken in conjunction with their environment. In essence, where life occurs, from the upper reaches of the atmosphere to the top few meters of soil, to the bottoms of the oceans. We divide the earth into atmosphere (air), lithosphere (earth), hydrosphere (water), and biosphere ((life)).
2. **Ecosystem:** The relationships of a smaller groups of organisms with each other and their environment. Scientists often speak of the interrelated of living things. Since, according to Darwin's theory, organisms adapt to their environment, they must also adapt to other organisms in that environment. We can discuss the flow of energy through an ecosystem from photosynthetic (autotrophs) to herbivores and to carnivores.
3. **Community:** The relationships between groups of different species. For example, the desert communities consist of rabbits, coyotes, snakes, birds, mice and such plants as cactus , creosote bush, etc. Community structure .
4. ***Populations*:** Groups of similar individuals who tend to mate with each other in a limited geographic area. This can be as simple as a field of flowers, which is separated from another field by a hill or other area where none of these flowers occur.
5. **Species:** Groups of similar individuals who tend to mate and produce viable, fertile offspring. We often find species described not by their reproduction (a biological species) but rather by their form (anatomical or form species).

6. **Individuals:** One or more cells characterized by a unique arrangement of DNA "information". These can be unicellular or multicellular. The multicellular individual exhibits specialization of cell types and division into tissues, organs, and organ systems.

1- **Organ System:** (in multicellular organisms). A group of cells, tissues, and organs that perform a specific major function. For example: the cardiovascular system functions in circulation of blood.

7. **Organ:** (in multicellular organisms). A group of cells or tissues performing an overall function. For example: the heart is an organ that pumps blood within the cardiovascular system.
8. **Tissue:** (in multicellular organisms). A group of cells performing a specific function. For example heart muscle tissue is found in the heart and its unique contraction properties aid the heart's functioning as a pump .
9. **Cell:** The fundamental unit of living things. Each cell has some sort of hereditary material (either DNA or more rarely RNA), energy acquiring chemicals, structures, etc. Living things, by definition, must have the metabolic chemicals plus a nucleic acid hereditary information molecule.
10. **Organelle**: A subunit of a cell, an organelle is involved in a specific subcellular function, for example the ribosome (the site of protein synthesis) or mitochondrion (the site of ATP generation in eukaryotes).
11. **Molecules:** atoms, and subatomic particles: The fundamental functional levels of biochemistry.

Scheme of life's organization

(Scheme of level organization)

Levels of life

Biosphere (Biome)	**The sum of all activities for all organisms with their environment (water , earth , air, and life) (worldwide ecosystem)**
Ecosystem	The relationships of a smaller groups of organisms with each other and their environment everglades involves many kinds of organisms .
Community	Populations of interact with one another in a particular place trees, insects , bacteria etc.
Population	A group of individual organism of a particular kind. human or condor .
Species	A groups of similar individual who tend to mate and produce viable fertile odd spring homo sapiens, panther a Tigris .
Individuals (organism)	An independent living unit bacteria , mushroom, yeasts and human .
Organ system	Groups of organs that perform particular functions. Circulatory system .
Organ	Groups of tissues that perform particular functions, eye.
Tissue	Groups of cells that perform particular functions, blood groups .

Cell	The smallest unit that displays the characteristics of life blood cells , heart muscle cells .
Organelle	Specific arrangements of compounds nucleus , Golgi body , plastids , etc.
Molecule	Specific arrangement of atoms. H_2O , CO_2, $C_6H_{12}O_6$, etc. DNA and RNA .
Atoms	The fundamental unites of matter . Ex. H_2, NH_3, etc.

The End