

Lecture One

المحاضره الاولى

First Stage

المرحلة الاولى

Human Biology

الاحياء البشري


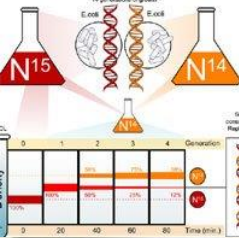

Biology: is the study of life. It's derived from the Greek word bios, meaning "life," and logos, meaning "study".

Biology: is the science that studies living organisms and how they interact with one another and their environment.

Biologists study the distribution, evolution, function, growth, origin, structure, and taxonomy of species. We're able to understand how our bodies work, how organisms work, how our cells work. It's the science that tells us everything about *what* we are.

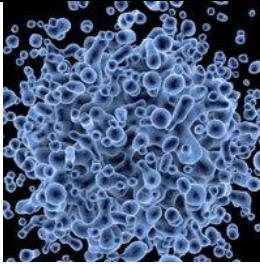
Branches of Biology

Biology is subdivided into separate branches for convenience of study, though all the subdivisions are interrelated by basic principles.

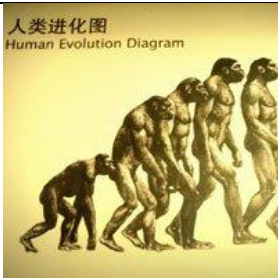
	<p>Anatomy: is the branch of biology that deals with the study of the structure of organisms and their parts.</p>
	<p>Biochemistry: is the branch of biology concerned with the chemical and physiochemical processes that occur within living organisms.</p>
	<p>Biotechnology</p> <p>Biotechnology is the exploitation of biological processes such as genetic manipulation of micro-organisms for the production of antibiotics, hormones, etc.</p>



Parasitology: is the branch of biology or medicine concerned with the study of parasitic organisms.



Genetics: is the study of genes, genetic variation, and heredity in living organisms.



Evolution

Evolution is the process by which different kinds of living organisms are thought to have developed and diversified from earlier forms during the **history** of the earth (Darwinism).



Immunology: is the branch of medicine and biology concerned with immunity.



Molecular Biology: is the branch of biology that deals with the structure and function of the proteins and nucleic acids.

Levels of Ecological Organization

Ecosystems can be studied at small levels or at large levels. The levels of organization are described below from the smallest to the largest:

- **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 of labor into tissues, organs, and organ systems.
- **A species:** is a group of individuals that are genetically related and can breed to produce fertile young. Individuals are not members of the same species if their members cannot produce offspring that can also have children.
- **A population:** is a group of organisms belonging to the same species that live in the same area and interact with one another.
- **A community:** is all of the populations of different species that live in the same area and interact with one another. A community is composed of all of the biotic factors of an area.
- **An ecosystem:** includes the living organisms (all the populations) in an area and the non-living aspects of the environment. An ecosystem is made of the biotic and abiotic factors in an area.
- **The biosphere:** is the part of the planet with living organisms (The biosphere includes most of Earth, including part of the oceans and the atmosphere.