Genetics

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

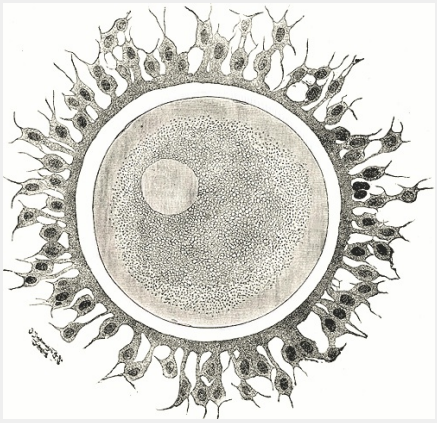
Deoxyribonucleic acid

is a molecule that encodes the genetic instructions used in the development and functioning of all known living organisms and many viruses.
DNA is a nucleic acid; alongside proteins and carbohydrates, nucleic acids compose the three major macromolecules essential for all known forms of life.

Ribonucleic acid

Ribonucleic acid (RNA) is a polymeric molecule. It's implicated in a varied sort of biological roles in coding, decoding, regulation, and expression of genes.
DNA and RNA are nucleic acids, and, along with proteins, constitute the three major macromolecules essential for all known forms of life.
Like DNA, RNA is assembled as a chain of nucleotides, but unlike DNA it is more often found in nature as a single-strand folded unto itself, rather than a paired double-strand.

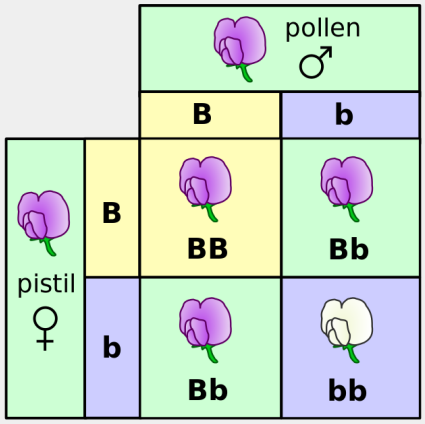
Zygote



A zygote is the initial cell formed when two gamete cells are joined by means of sexual reproduction.

In single-celled organisms, the zygote divides to produce offspring, usually through mitosis, the process of cell division.

Genotype



The genotype is the genetic makeup of a cell, an organism, or an individual usually with reference to a specific characteristic under consideration.

Ploidy

Ploidy is the number of sets of chromosomes in the nucleus of a cell.

Phenotype

A phenotype (from Greek phainein, meaning "to show", and typos, meaning "type") is the composite of an organism's observable characteristics or traits, such as its morphology, development, biochemical or physiological properties, phenology, behavior, and products of behavior (such as a bird's nest).

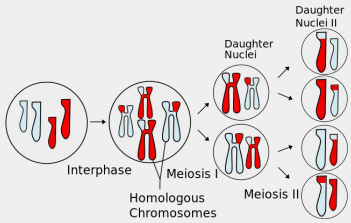
Allele

An allele, or allel, is one of a number of alternative forms of the same gene or same genetic locus.

Homozygous & Heterozygous

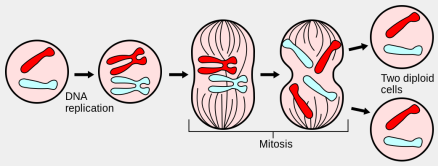
Zygosity is the degree of similarity of the alleles for a trait in an organism.
A cell is said to be homozygous for a particular gene when identical alleles of the gene are present on both homologous chromosomes.
A diploid organism is heterozygous at a gene locus when its cells contain two different alleles of a gene.

Meosis



Meiosis is a special type of cell division necessary for sexual reproduction which occurs or has occurred in all eukaryotes, including animals, plants and fungi, including both multi-celled and single-celled organisms.

Mitosis



Mitosis is the process, in the cell cycle, by which the chromosomes in the cell nucleus are separated into two identical sets of chromosomes, each in its own nucleus.