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Laws of Mendel

Law of Dominance says that a gene has two contrasting alleles and one always expresses itself in the organism.

It is called the dominant gene and it expresses in any possible combination.

Law of Segregation says that traits get segregated completely during the formation of gametes without any mixing of alleles.

Law of Independent Assortment says that the traits can segregate independently of different characters during gamete formation.

Sex determination

- The process of determining the sex of an individual based on the composition of the genetic material is called sex determination.
- In different animals, sex of an embryo is determined by different factors.
- In humans, sex determination happens on the basis of the presence or absence of Y chromosome.
- XX is female and XY is male
- An ovum always contains X chromosome.
- An Ovum, upon fusion with Y containing sperm, gives rise to a male child and upon fusion with X containing sperm gives rise to girl child.

Traits

Traits are characteristic features of an organism, manifested in a physical form that is visible or in a physiological aspect of the organism.

Acquired characters

- The traits that are acquired by an organism over the period of its lifetime are termed as acquired characters.
- These characters may or may not get transferred to the next generation.

Inherited characters

- The traits that are inherited from the parents are called inherited characters. These traits
 - always get transferred to the next generation, but depending on the dominance or recessiveness it may or may not be expressed.
- Examples are height, skin colour, and eye colour