Principles of Genetics Cheat Sheet

by anisha_21 via cheatography.com/151533/cs/32731/

Mendalian Genetic

Gregor Medal - Father of Modern Genetics	Why Pea?
Austrian monk who studied heredity in pea plants.	easy to grow and redily available
Developed laws of inheritence.	control fertilizaton and reproduce rapidly
Conducted experiments on Pisum sativum(pea plants)	easily distinguishable, distinct trait

Laws of Inheritence

Law of Dominance	Law of Independent Assortment	Law of Segregation

Laws of Inheritence (cont)

Hybrid offspring will only inherit the dominant trait in the phenotype. The alleles that are suppressed are called the recessive traits while the alleles that determine the trait are known as the dominant traits.	A pair of traits segregates independently of another pair during gamete formation. As the individual heredity factors assort independently, different traits get equal opportunity to occur together.	During the production of gametes, two copies of each hereditary factor segregate so that offspring acquire one factor from each parent. In other words, allele (alternative form of the gene) pairs segregate during the formation of gamete and reunite randomly during fertilization.

Non-Mendalian Inheritence

Where both the alleles are expressed equally.	The traits blend together producing an intermediate phenotype. If two flowers are crossed together, a hybrid will be produced that is in between both the parents.	Where one trait is controlled by several genes.

Non-Mendalian Inheritence (cont)

e.g: The blood group AB where both the alleles are dominant and expressed equally.	Mendel studied only two alleles in the genes but real population often have multiple alleles for a given gene.	e.g: When snapdragon plant, in a homozygous white flower is crossed with a homozygous red flower, a pink flower is obtained.	When one gene affects more than one characteristic	e.g: skin color, eye color, height

Non-Mendalian Inheritence

Co-Dominance	Incomplete Dominance	Polygenic Inheritance	Multiple alleles	Pleiotropy

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