

Genetics

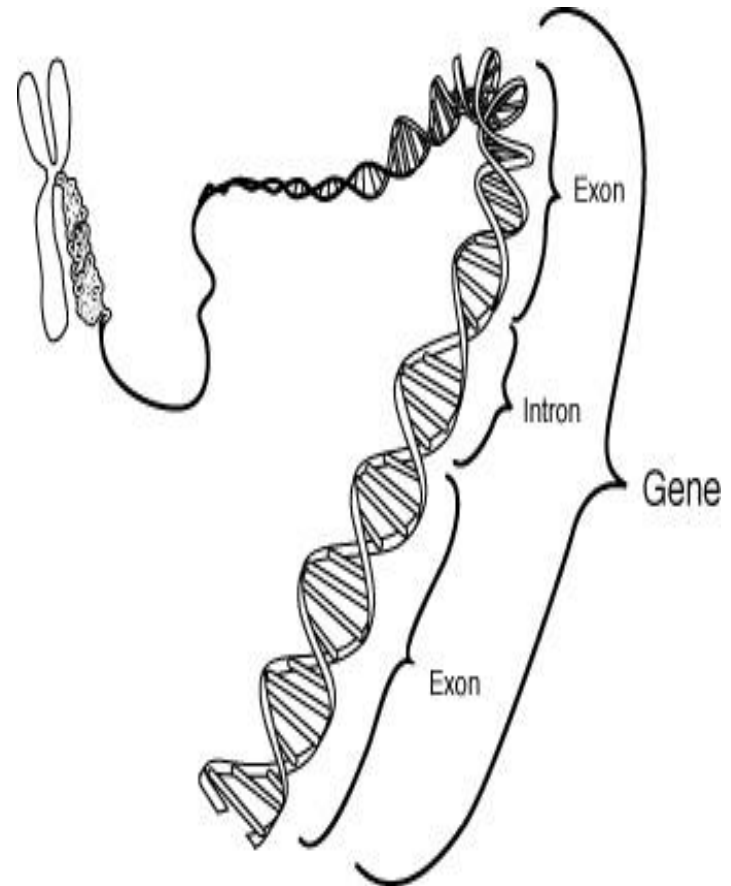


What is Genetics?

- Genetics is the study of genes.
- This field of science answers questions concerning how traits are passed from the parents to the off spring.

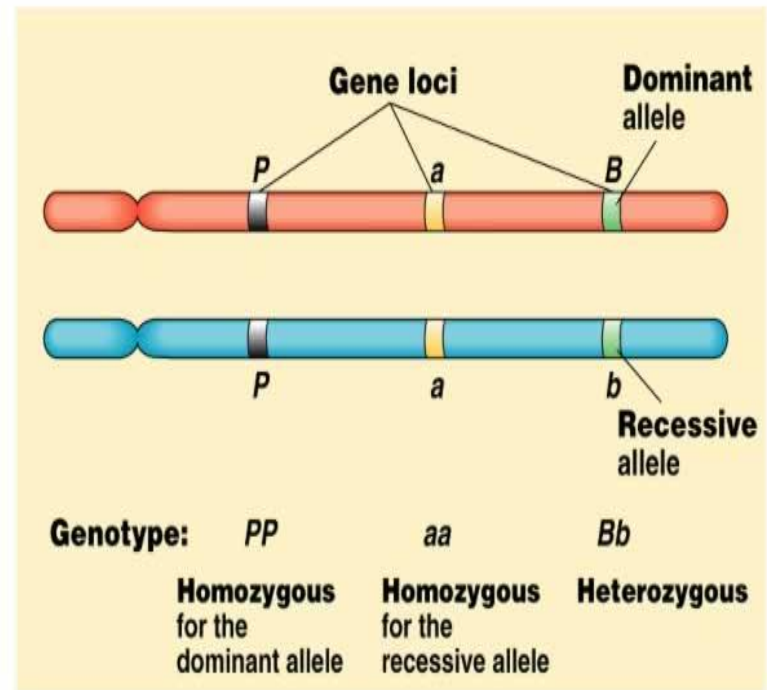
What are genes?

- Inherited characteristics are controlled by genes.
- Genes are a segment of DNA.
- Genes are located on the chromosomes





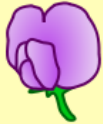



Key Concepts Cont.

- Organisms contain two copies of each gene. (One from mom one from dad)
- Alternative versions of genes are called alleles



Alleles

- An allele is called dominant if it determines the observable characteristics when paired with another allele.
- An allele is recessive if it requires another identical allele to determine the observable characteristics

		 pollen ♂	
		B	b
 pistil ♀	B	 BB	 Bb
	b	 Bb	 bb

The same vs. not the same

- If the two alleles are identical the individual is homozygous.
- If the two alleles are different the individual is heterozygous.

● **Hh**







● **AA**

● **ff**

● **Gg**

Punnett Squares

- Helps determine the genetic combinations that parent could pass to its offspring.

		 pollen ♂	
		B	b
 pistil ♀	B	 BB	 Bb
	b	 Bb	 bb