



# Chapter 5 Topics

1. Animal Life Cycles
2. Structure of DNA in Eukaryotes and Prokaryotes!
3. Replication of DNA (copying of DNA)
4. Making proteins!
  - Transcription-going from DNA to mRNA
  - Translation-going from mRNA to protein
5. Gene regulation!
6. Sizing up the Genome
7. Mutations
8. Mitosis vs Meiosis (sexual reproduction)
9. Mendel and Punnett Square
- 10. Getting more real....**

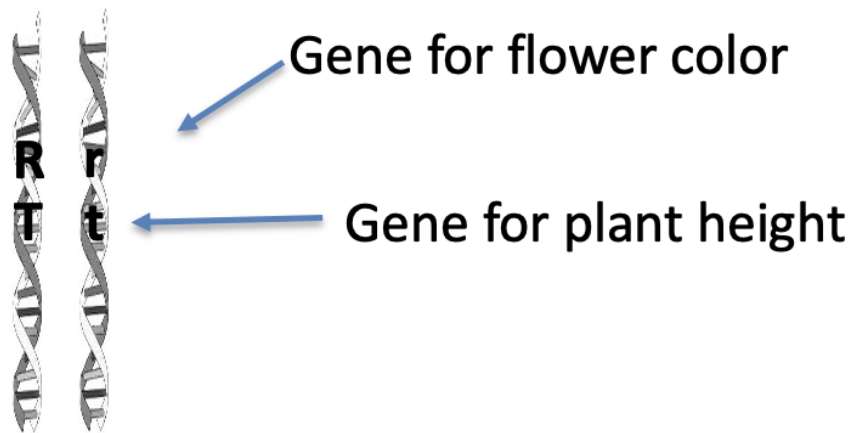
**G. Two loci or genes** (and thus the traits they code for) **may be linked** if they are close together on the same chromosome!

If close together recombination is unlikely to break them apart and pairs of alleles will likely be inherited together through meiosis.

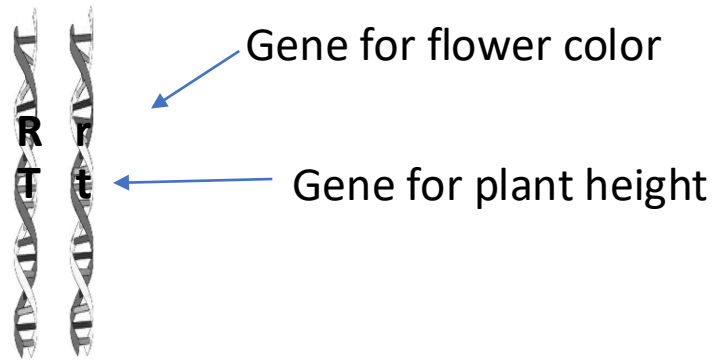
If you inherit one you very likely inherit the other!

Remember each chromosome contains thousands of genes, “organized linearly on chromosomes like beads on a string.”

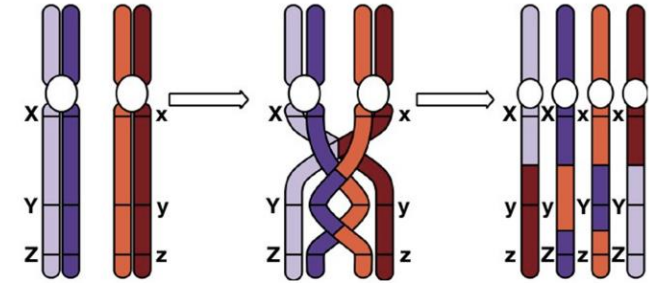
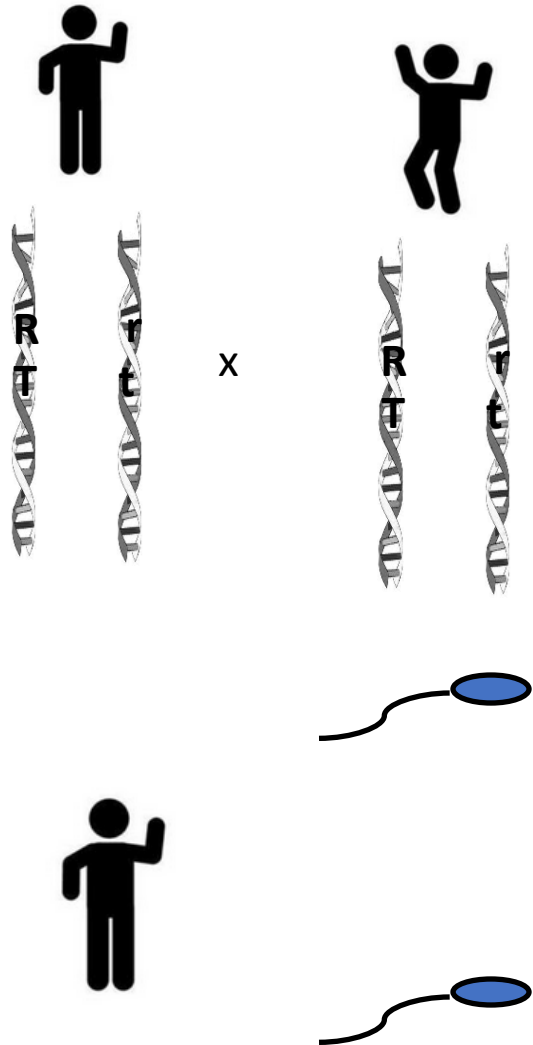
Imagine that chromosome 1 has two genes close to one another- A flower color gene (two alleles R and r) and a plant height gene (two alleles T and t).



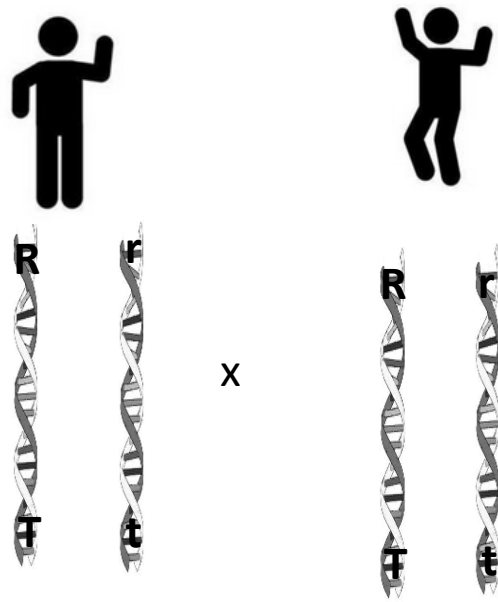
How likely is it that recombination will separate these alleles from one another?



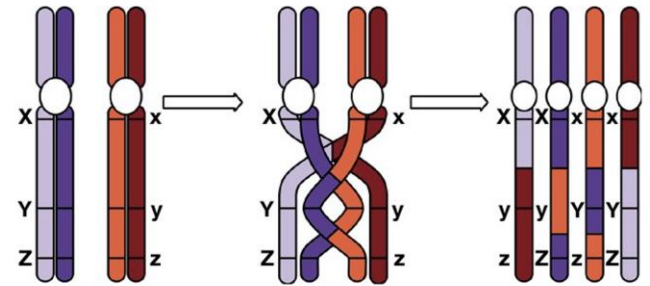
Imagine you cross two individuals.




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Note location on chromosome!




## H. Multifactorial traits

When a disease is said to have a multifactorial basis, it means that ...???

- it is caused by a gene with a large number of alleles
- it affects a large number of people
- it has many different symptoms
- both genetic and environmental factors contribute to the disease
- it tends to skip a generation



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***Come up with an example of a multifactorial disease!***

***These are the norm!***

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