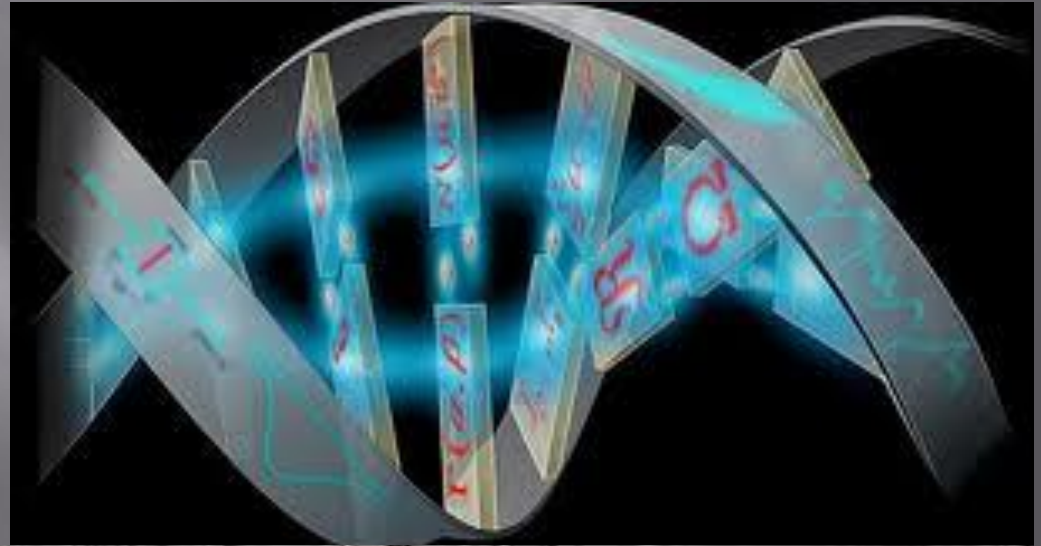


GENETICS

Genetics

- ▣ Genetics – the science of genes, heredity, and the variation of organisms



Heredity

- ▣ Heredity – the transfer of characteristics from parent to offspring



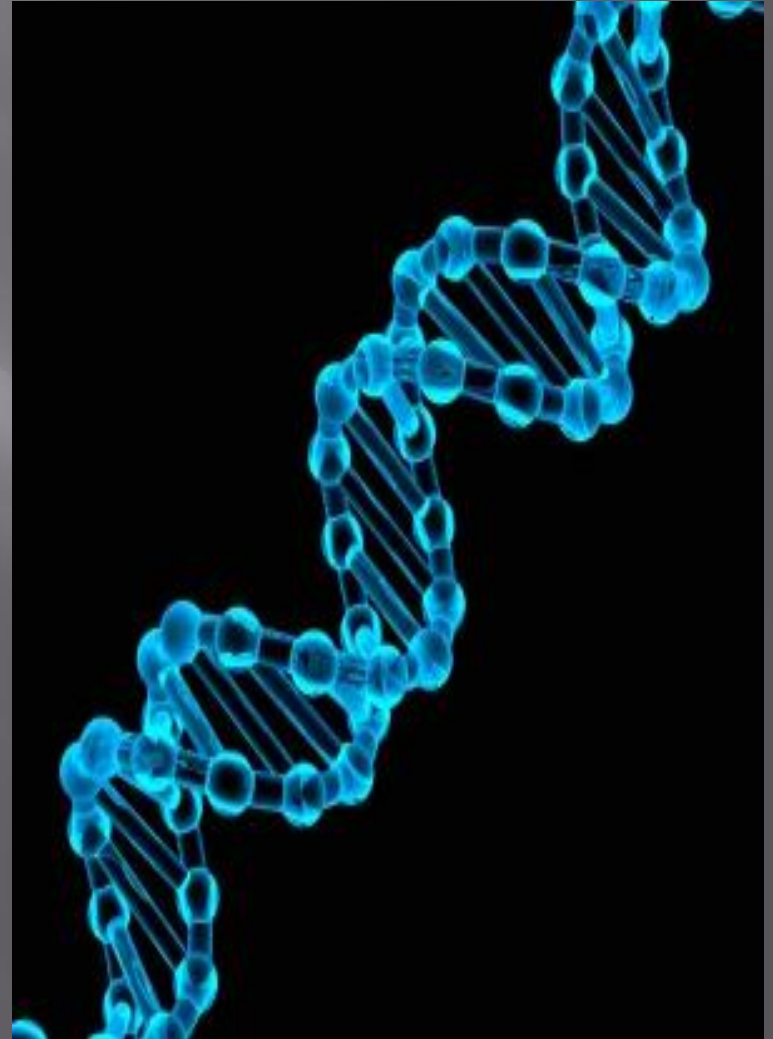
TRAITS

- ▣ A trait or characteristic that is a feature of an organism
- ▣ Examples: Eye color, hair color, height, etc...



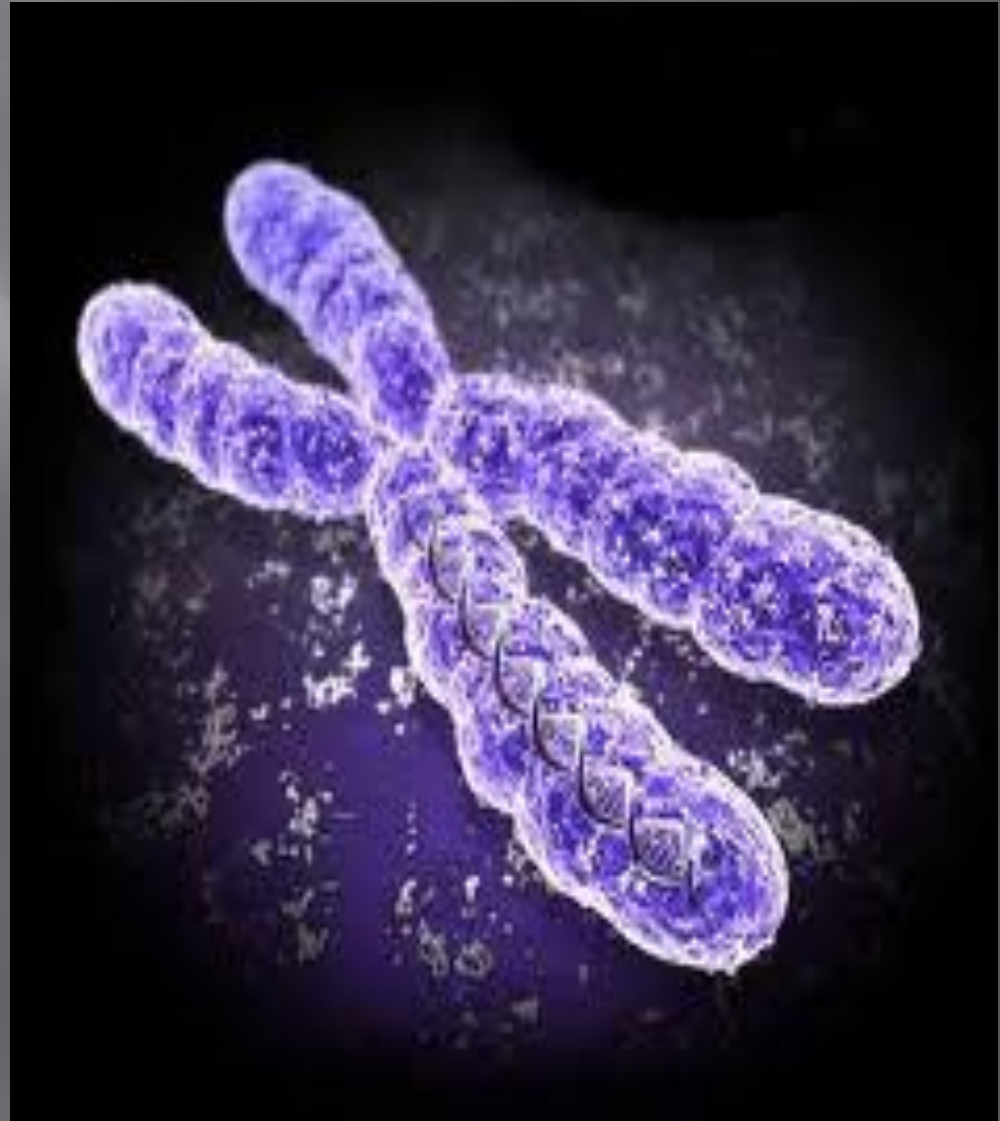
DNA

- ▣ DNA – Deoxyribonucleic acid is contains the genetic instructions for the biological development of any living thing made of cells.



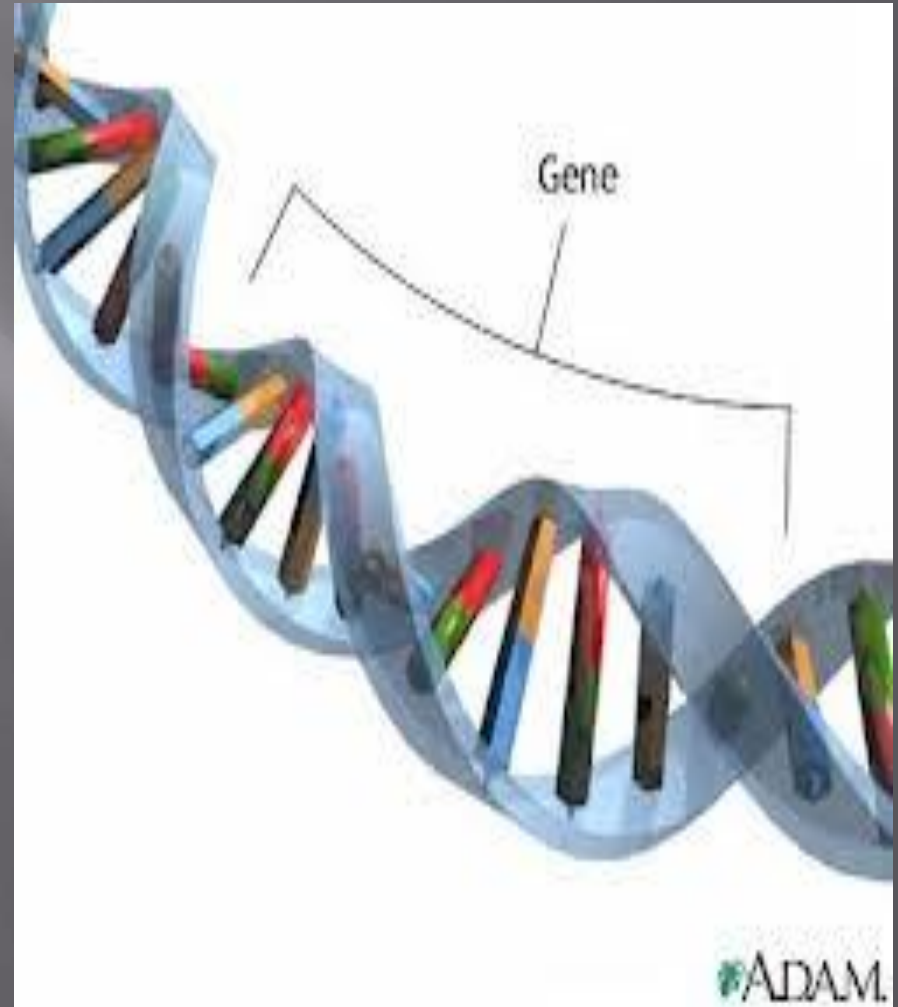
Chromosomes

- ▣ Chromosome
 - a structure made of DNA
- ▣ Chromosomes are found in the nucleus of cells



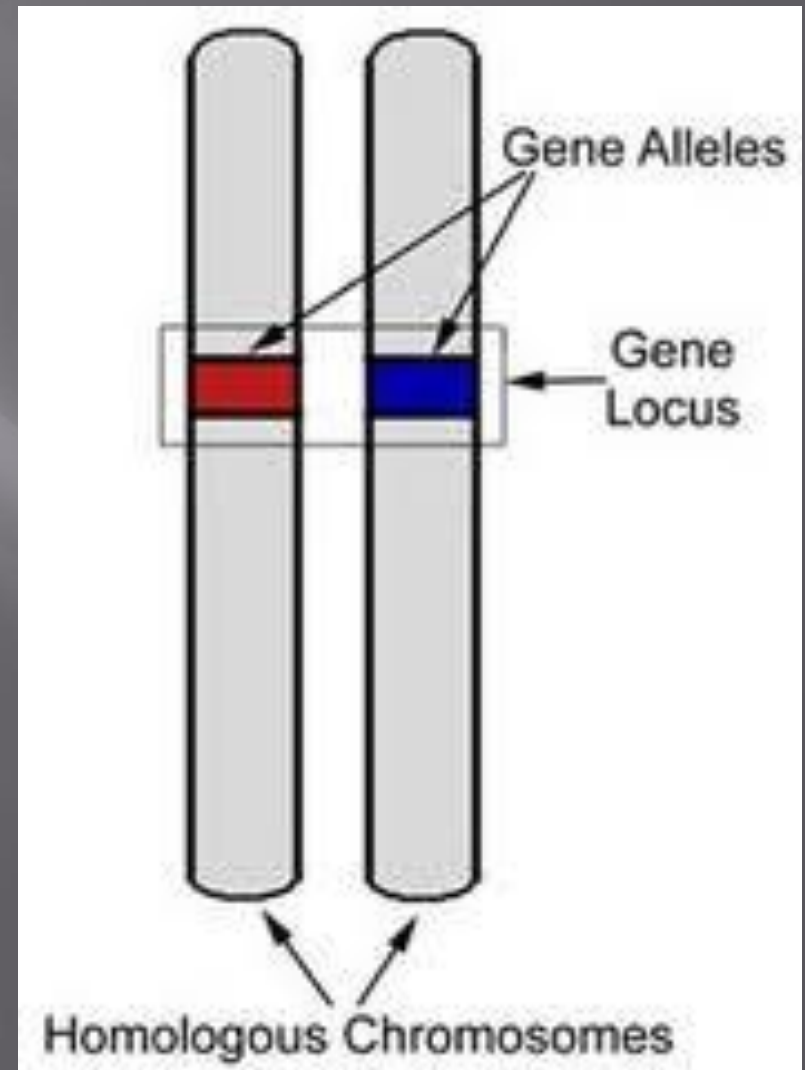
Genes

- ▣ Genes – parts of DNA that are passed down from generation to generation
- ▣ Genes are the blueprint of the **physical** and **behavioral** development of each organism



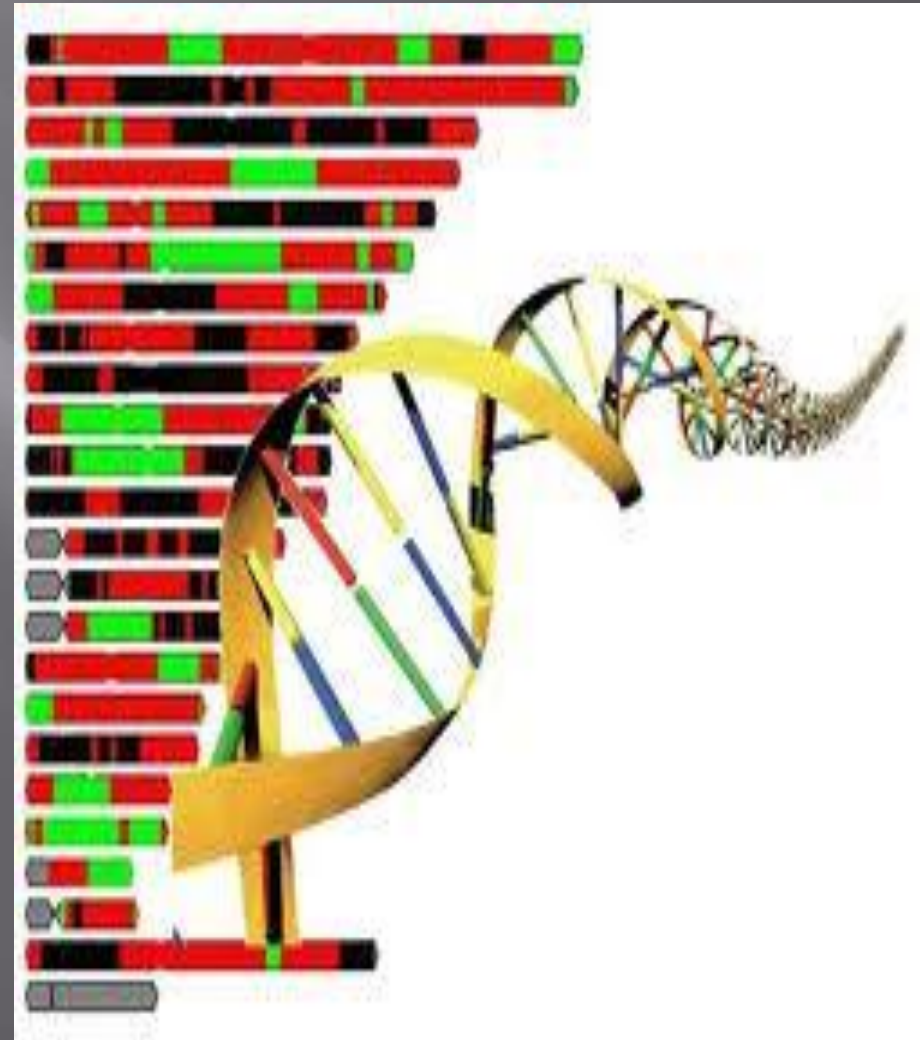
Locus

- ▣ Locus –
A specific location of a Gene within a chromosome



Allele

- ▣ Allele – any one of a number of viable DNA sequences occupying a given location on a chromosome that codes for a gene.
- ▣ An individual's genotype for that gene is a set of alleles it happens to possess.



Types of Alleles

- ▣ Dominant Allele – Shows up if present on either chromosome and is represented by an upper case letter

BB

Bb

Types of Alleles

- ▣ Recessive Allele

– Only shows up if presented on both chromosomes and is represented by a lower case letter

b b

Types of Alleles

▣ Heterozygous

- Individuals carry 2 different alleles at a particular locus

Bb

Types of Alleles

- ▣ Homozygous
 - individuals carry 2 copies of the same allele at a particular locus

BB

bb

Genotype

- ▣ Genotype –
the internally
coded
information
carried by all
living
organisms
(the blueprint)

BB

Bb

bb

Phenotype

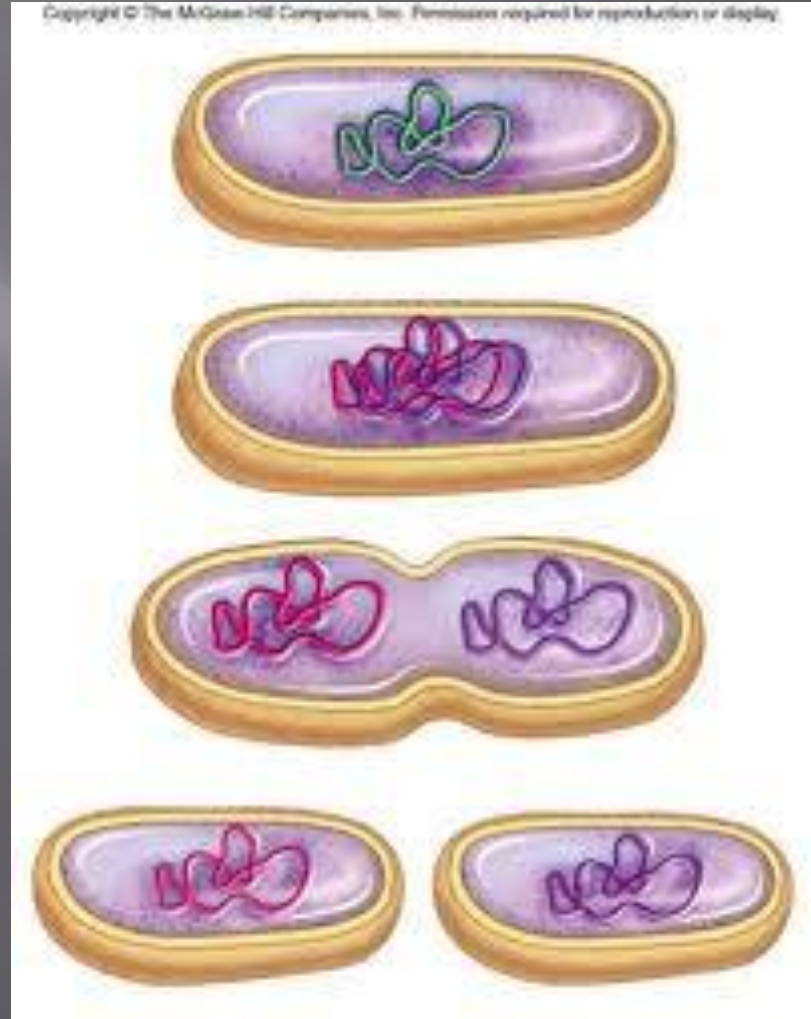
- ▣ Phenotype – the outward, physical manifestation of an organism
(the physical parts that can be observed)
- ▣ Eye Color
- ▣ Size
- ▣ Reflexes
- ▣ Behaviors
- ▣ Skin Color

Asexual Reproduction

▣ Asexual Reproduction -

One individual produces offspring that are genetically identical to itself

(budding, binary fission)



Sexual Reproduction

- ▣ Sexual Reproduction – 2 individuals produce offspring that have genetic characteristics from both parents
- ▣ It introduces a new gene combination

