Key Terms for Genetics

* **Gene**: The set of information that controls a trait; a segment of DNA on a chromosome that codes for a specific trait.
* **Alleles**: The different forms of a gene.
* **Homozygous**: Having two identical alleles for a trait.
* **Heterozygous**: Having two different alleles for a trait.
* **Dominant Allele**: An allele whose trait always shows up in the organism when the allele is present.
* **Recessive Allele**: An allele that is masked when a dominant allele is present.
* **Genotype**: An organism’s genetic makeup, or allele combinations.
* **Phenotype**: An organism’s physical appearance, or visible traits.
* **Punnett Square:** a chart that shows all possible combinations of alleles that can result from a genetic cross.
* **Incomplete Dominance:** a condition where the dominant allele does not fully mask the recessive allele; you end up with a mixture of the two alleles (white flowers + red flowers = pink flowers)
* **Codominance:** a condition in which neither of two alleles of a gene is dominant or recessive; both traits will appear in the phenotype (a black and white spotted chicken)
* **Probability:** the likelihood that a particular event will occur.
* **DNA**: deoxyribonucleic acid; the blueprint of life; in the shape of a double helix
* **Multiple Alleles**: three or more forms of a gene that code for a single trait.
* **Sex chromosomes**: a pair of chromosomes carrying genes that determine whether a person is male or female (male=XY, female=XX)
* **Sex**-**linked gene:** a gene that is carried on the X or Y chromosome
* **Carrier:** A person who has one recessive allele for a trait, but does not have the trait.
* **Genetic Disorder:** An abnormal condition that a person inherits through genes or chromosomes.
* **Pedigree:** A chart or “family tree” that tracks which members of a family have a particular trait.
* **Karyotype:** A picture of all the chromosomes in a cell arranged in pairs.
* **Mutation:** any change in a gene or a chromosome;

***Extra Words:***

* **Selective Breeding:** The process of selecting a few organisms with desired traits to serve as parents of the next generation.
* **Inbreeding:** A selective breeding method in which two individuals with identical or similar sets of alleles are crossed.
* **Clone:** An organism that is genetically identical to the organism from which it was produced.
* **Gene Therapy:** The insertion of working copies of a gene into the cells of a person with a genetic disorder in an attempt to correct the disorder.
* **Hybridization:** A selective breeding method in which two genetically different individuals are crossed.
* **Genetic Engineering:** The transfer of a gene from the DNA of one organism into another organism, in order to produce an organism with desired traits.
* **Genome: T**he entire DNA in one cell or organism.
* **Human Genome Project:** an international effort to identify the DNA sequence of every gene in the human genome