Q3 Genetics Vocabulary

**Gene**: The basic unit of heredity that consists of a segment of DNA on a chromosome

**Heredity**: The passing of genes from parent to offspring

**Traits**: Characteristics that inherited from parent to offspring

**DNA**: The genetic material found in all living cells

**Chromosomes**: The physical structure in the cell that contains the cell’s genetic material

**Genome**: The full DNA sequence of an organism

**Mutation**: Any change made in DNA

**Genetic Engineering**: The process used by scientists to intentionally manipulate DNA in order to alter the characteristics of an organism

**Down’s Syndrome**: A genetic disorder where an additional chromosome number 21 is present in an individual resulting in specific physical and intellectual disabilities

**Sickle Cell Disease**: A genetic disorder that results in an abnormal red blood cell with a crescent shape

**Asexual Reproduction**: A type of reproduction in which a single organism produces offspring that have the same genetic material

**Sexual Reproduction**: A type of reproduction in which male and female reproductive cells combine to form offspring with genetic material from both cells

**Mitosis**: Cell division resulting in two identical cells

**Meiosis**: Cell division resulting in four sex cells with half the normal amount of genetic material

**Gametes**: A sperm or egg cell that contains half the usual number of chromosomes

**Phenotype**: The characteristics that can be observed

**Genotype**: The actual genetic makeup of an organism

**Allele**: A form of a gene for a specific trait

**Dominant**: The allele that is expressed even if only one copy is present in the genotype

**Recessive**: The allele that is only expressed if two copies are present in the genotype

**Homozygous**: The alleles in the genotype are the same

**Heterozygous**: The alleles in the genotype are different

**Punnett Square**: A chart used to show the possible ways genes from two parents can combine in order to predict possible genotypes of offspring

**Pedigree**: A chart that shows family relationships that often includes hereditary indicators of disease and disorders

**Environmental Stressors**: A factor that may potentially influence an organism’s ability to survive