**Unit VI Vocabulary: Genetics**

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| 1. Meiosis
 | Process of making gametes (4 genetically different cells from one parent cell); occurs in two different phases (I or II) |
| 1. Haploid
 | Cells that contains only one copy of a chromosome set (23 chromosomes in human genetics) |
| 1. Diploid
 | Cells with PAIRS of homologous chromosomes (46 total chromosomes in humans) |
| 1. Gamete
 | Sex cell (sperm or egg) – always haploid, so when combined together, a diploid organism is created |
| 1. Crossing Over
 | Occurs in prophase I of meiosis; genes are exchanged between two chromosomes, which leads to genetic diversity (reason why the four daughter cells are genetically different) |
| 1. Allele
 | Alternative form of a gene located at a specific point on a chromosome (Hh has two different alleles: H and h) |
| 1. Dominant Trait
 | Trait that appears over a recessive form when both are present |
| 1. Recessive Trait
 | A trait that does not appear unless the dominant trait is absent (cc represents an individual who has Cystic Fibrosis, which is recessive) |
| 1. Homozygous (Pure Breeding)
 | Two identical alleles (HH or hh); homo = same |
| 1. Heterozygous (Hybrid)
 | Two non-identical alleles (Hh); hetero = different |
| 1. Carrier
 | An individual who has an allele for a recessive trait, but does not express it because a dominant one overrules it (Cc is a carrier of Cystic Fibrosis, a recessive condition) |
| 1. Genotype
 | Genetic makeup of a trait (RR, Rr or rr) |
| 1. Phenotype
 | Physical appearance of a trait (round or wrinkled peas) |
| 1. Punnett Square
 | A diagram/chart used to predict the outcome of a certain pair of mating individuals based on one trait (AKA: monohybrid cross) |
| 1. Pedigree
 | Graphic diagram showing a relationship within a family (circle = females and squares = males; shaded = affected by a certain trait and unshaded = not affected) |
| 1. Co-Dominance
 | Both alleles show dominance in true form (red plus white = splotchy red and white) |
| 1. Incomplete Dominance
 | Neither allele is completely dominant over the other, so they blend together (red plus white = pink) |
| 1. Sex-Linked Trait
 | Trait carried on the X chromosome, which causes the trait to appear most often in males when the Y chromosome is incapable of showing dominance over the trait) |
| 1. Nondisjunction
 | Failure of chromosomes to separate; causes genetic disorders |
| 1. Down Syndrome
 | Trisomy 21 – occurs when an individual has 3 chromosomes on the 21st pair instead of 2; caused by NONDISJUNCTION |
| 1. Karyotype
 | Pictographic spread of an individual’s chromosomes grouped in homologous pairs; all normal humans have 46 |
| 1. Zygote
 | Two haploid gametes fuse to form one diploid cell; a fertilized egg cell |
| 1. Gene
 | A segment of DNA that is responsible for traits |
| 1. Sexual Reproduction
 | Process of creating offspring with two parents |
| 1. Law of Segregation
 | Alleles of a given location will separate into separate gametes. A gene can have different alleles, or variations but each gamete only gets one allele of each gene. |
| 1. Law of Independent Assortment
 | Alleles of one gene sort into gametes independently of the alleles of another gene. |
| 1. Autosomal
 | Any chromosome that is not considered a sex chromosome; pairs #1-22 in humans |
| 1. Polygenic Trait
 | Trait that is controlled by more than one gene; example: eye color |