Ch 14.3 Notes

---------------------------------------------------------------------------------------------------------------------

Vocab

---------------------------------------------------------------------------------------------------------------------

Complete Dominance: A form of dominance wherein the dominant allele completely masks the effect of the recessive allele in heterozygous conditions.

Incomplete Dominance: When a dominant allele, or form of a gene, does not completely mask the effects of a recessive allele (Note: This means the alleles are mixed together)

Codominance: A type of inheritance in which two alleles of the same gene are expressed separately to yield different traits in an individual (Note: This means the that both alleles are visible)

Tay Sachs Disease: An inherited disorder in humans where brain cells of a child with Tay-Sachs disease cannot metabolize certain lipids because a crucial enzyme does not work properly

Pleiotropy: The phenomenon of a single gene affecting multiple traits

Epistasis: A circumstance where the expression of one gene is modified (e.g., masked, inhibited or suppressed) by the expression of one or more other genes. (EX: Baldness and the color of your hair)

Quantitative Character: An inherited character that is expressed phenotypically in all degrees of variation between one often indefinite extreme and another. (TLDR: A phenotype that can be quantified like height)

Polygenic Inheritance: When one characteristic is controlled by two or more gene. (EX: Skin color)

---------------------------------------------------------------------------------------------------------------------

Notes

---------------------------------------------------------------------------------------------------------------------

Genes usually aren’t either or because of the many types of dominance

* This is complete dominance
* Also have co-dominance and incomplete dominance
* Multiple allelism
* Polygenic inheritance

Incomplete dominance

* Phenotype lies somewhere between the two parental ones
* One allele is not completely dominant over another
* EX: Red flowers crossed with white flowers produces pink flowers

Co-Dominance

* Both alleles expressed equally (NOT MIXED)
* Phenotypes of both alleles are clearly shown
* Think co-captains
* EX: Calico Cats

Multiple Allelism = 2+ versions of a gene

* Example: blood type
  + Alleles: A, B, O
  + Genotypes: AA, AO, BB, BO, AB, OO
  + Phenotypes: Type A blood (AA or AO), Type B blood (BB or BO), Type AB (AB), Type O (OO)

Pleiotropy = One gene affects multiple phenotypes/characteristics

Epistasis = Gene on one locus (location on a gene) affects the expression of another gene

Polygenic Traits = A trait that is affected by more than one gene

* Genes may be located near one another, but don’t have to be
* Example: Eye Color, Height, Skin Color etc.