Science 10: Complete Dominance (Mendelian), Codominance, and Incomplete Dominance Class Notes

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|  | Phenotypes | Allele / Genotype Notation | Example |
| Complete Dominance | 2 phenotypes: heterozygote is same as homozygous dominant  Require two recessive alleles to show recessive phenotype.  Require one (or two) dominant alleles to show dominant phenotype. | Each allele is one letter.  Dominant is capital. Recessive is lowercase. | Flower colour in pea plants  Purple (B) dominant over white (b).  BB: purple  Bb: purple  bb: white |
| Incomplete Dominance | 3 phenotypes: heterozygote is a mix or average of traits | Each allele is two letters. The big letter indicates the gene; the superscript indicates the allele (e.g. FW vs FB) | Wavy hair in humans: curly hair incompletely dominant with straight hair  HSHS: straight  HSHC or HCHS: wavy  HCHC: curly |
| Codominance | 3 phenotypes: heterozygote shows both traits | Each allele is two letters.  The big letter indicates the gene; the superscript indicates the allele (e.g. FW vs FB) | Checkered feathers in chickens  FW (white) codominant with FR (black).  FWFW: white  FWFB or FBFW: checkered  FBFB: black |
| Special Case: Blood Type | 4 phenotypes: is mixed codominance and complete dominance.  Blood Type O, A, B, AB | Each allele is two letters.  i = recessive  IA and IB are codominant. | Type O: ii  Type A: IAi or IAIA  Type B: IBi or IBIB  Type AB: IAIB or IBIA |
| Sex-linkage | 2 phenotypes: is complete dominance but gene is on the X or Y sex chromosome (usually X) | Gene is attached to X OR Y chromosome.  Allele can be dominant (capital) or recessive (lowercase) superscript. | XB = normal vision (dominant)  Xb = red-green colour-blindness (recessive)  Y = Y chromosome  XBXB = normal female  XBXb = normal female  XbXb = colourblind female  XBY= normal male  XbY = colourblind male |