Unit 6 Genetics Test Study Guide – Test Friday, 5/21

Key Terms:
heredity, trait, dominant, recessive, allele, genotype, phenotype, homozygous, heterozygous, probability, Punnett square, testcross, complete dominance, incomplete dominance, co-dominance, sex-linked trait, pedigree, carrier, karyotype

Key Concepts:
• Location of genes
• How genes are inherited (one copy (allele) from mom, one from dad)
• Meiosis generates sex cells
• Solve genetic problems using a Punnett square and pedigree chart
• Predict probability of offspring inheriting particular traits using genotype and phenotype ratios
• Explain relationship between dominant and recessive alleles in complete dominance
• Compare and contrast complete dominance and codominance
• Identify homozygous and heterozygous genotypes
• Explain sex determination using fertilization and the sex chromosomes
• Explain the process of blood typing, how it represents codominance, and how it can be applied in real life
• Describe how a multicellular organism develops from a single zygote, and its phenotype (i.e. its outward appearance) depends on its genotype (i.e. its genetic makeup), which is established at fertilization, and the how possible combinations of alleles in a zygote can be predicted from the genetic makeup of the parents for simple dominant/recessive traits through the analysis of Punnett Squares and Pedigrees.
• Apply the concepts of trait, alleles, dominant allele, recessive allele, gametes, genotype, homozygous, heterozygous, chromosome to meiosis and genetics.
• Solve genetic problems (complete dominance, incomplete dominance, co-dominance, multiple alleles and dihybrid crosses) through the use of Punnett Squares.
• Construct and evaluate a human Karotype [[22 different pairs of autosomal and one pair of sex chromosomes (males = XY and females = XX)] to identify common recognizable genetic disorders (i.e. Down syndrome).
• Relate the use of the Human Genome Project to its implications on human genetic disorders.

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