

Biology 30 Unit 3 Genetic Principles Review Topics

Overview: Your Unit 3 exam will be on _____

The following topics were investigated in the Genetics Unit. This is meant to guide your study and remind you of the topics you should pay attention to. **Check off the topics as you study them in preparation for the exam!**

- ___ Mitosis: IPMAT
- ___ Meiosis: Oogenesis & Spermatogenesis
- ___ Chromosome structure: Centrioles, Centromere, Chromatid, Chromatin
- ___ Chromosomal Abnormalities: Non-disjunction, trisomies, characteristics, abnormal disorders (Down's etc)
- ___ Genetic screening: Karyotype procedures
- ___ Mutation types: point & frame shift mutations, silent mutations
- ___ Monohybrid crosses: Genotype, phenotype, determining gametes, ratios
- ___ Dihybrid crosses: genotype & phenotype ratios, determining gametes
- ___ Mendel's Laws of Inheritance: Dominance, Independent assortment, Segregation
- ___ How to do a test cross: always cross the unknown with a known homozygous recessive. WHY? $Tt \times tt$ or $TT \times tt$
- ___ Multiple alleles: ABO blood types
- ___ Incomplete Dominance: pink flowers
- ___ Codominance: roan cattle
- ___ Polygenic: many genes for one trait ie// eye colour
- ___ Epistasis: one gene can influence another gene
- ___ Sex-linked Inheritance: how to do a cross, review some examples of such disorders
- ___ Gene linkage & Crossover of genes: implications for variation among a species
- ___ Chromosome (gene) mapping: how to locate genes on a chromosome
- ___ Gene splicing: how to remove or add genes to chromosomes
- ___ Gene therapy
- ___ DNA structure: nucleotides, enzymes, replication song, how to replicate it, fingerprinting
- ___ Gene recombination
- ___ Protein synthesis: define & do transcription/translation, locate these processes, role & kinds of RNA, distinguish RNA from DNA
- ___ Gene regulation & cancer: mutagens, how mutations alter the proteins being made