

What do you need to know for the exam?

interpret reciprocal crosses

- dominance, recessiveness of trait
- whether trait is sex-linked, autosomal or cytoplasmic
- genotypes of P0, F1, F2

interpret random families (e.g., dog homework)

- dominance, recessiveness of trait
- whether trait is sex-linked, autosomal or cytoplasmic
- genotypes of parents

interpret pedigrees

- dominance, recessiveness of trait
- whether trait is sex-linked, autosomal or cytoplasmic
- genotype of a particular individual

probability of displaying a phenotype

- crosses
- multigenerational data

how to recognize from cross data or random families

- incomplete dominance
- more than two alleles
- pleiotropy

major features of chromosome packaging

key features of mitosis and meiosis, including how many chromatids are present at different stages

key differences between mitosis and meiosis

consequences of mitosis and meiosis for genetic variation

recognizing linkage from testcross progeny;  
inferring parental chromosome configuration

recombination mapping: test cross  
calculating RF values and map distances

recombination mapping: bacteria  
broad-scale mapping (time course)  
fine-scale mapping (RF values)

statistical analysis of linkage

limits of recombination mapping

inferring linkage from pedigrees

interpretation of likelihood ratios and  
LOD score analyses