

Life sciences problems involving discrete probability:

- Mendelian genetics (including genetic disease counseling)
- Interpreting HIV (and other medical) test results
- Understanding why sickle cell anemia is so common in Africa (population genetics)

Terminology

Discrete vs. continuous probability:

Sample space (pg. 644):

Elementary events (pg. 644):

Events (pg. 645):

Multiplication Principle (pg. 646):

Tree diagrams (pg. 644):

Assigning probabilities

- based on traits of the events

- based on evidence from past events

Uniform sample space / Equiprobable events (pg. 649):

Rules for probability functions (pg. 648):

(Really basic) Mendelian Genetics (pgs. 650 – 653)

Genes:

Chromosomes:

Homologues:

Locus/Loci:

Alleles:

Genotype:

Phenotype:

Dominant/Dominance:

Meiosis/Gametes:

Punnett squares: