

Genetics

Biology – Mr. Hall

UNIT OUTLINE

Homework/Activities

- **Engage: Punnett squares** (4 pgs.)
Process and Procedures #1-5
Analysis #1-7
- **Explore: Genetics in the News** (4 pgs.)
Process and Procedures #1
Analysis #1-20
- **Explain: Lorenzo's Oil** (6 pgs.)
Process and Procedures: #1-23
Analysis: #1-8
- **Elaborate: Ask a Geneticist** (4 pgs.)
Analysis: #1-5
- **Evaluate: Squoovian Genetic Counseling** (4 pgs.)
Process and Procedures #1-3
Analysis #1-3

Concepts/Topics

Basics

- Mendel's experiments
- Genes & alleles
- Dominant, recessive traits
- Genotype & phenotype, homozygous & heterozygous
- Punnett squares, probability, genotype/phenotype ratios
- Non-Mendelian genetics - codominance, incomplete dominance
- Multiple alleles (ex: blood types)
- Polygenic traits (ex: eye color, skin color)
- Sex-linked traits (ex: color blindness), determining gender
- Genetic diseases, genetic counseling

Beyond the Basics

- Advantages of genetic diseases
- Pedigree, karyotype
- Selective breeding
- Mosaicism, Chimerism
- Alternative forms of inheritance (mitochondrial DNA, Y chromosome)

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