

What is it we expect students to learn? Identifying Essential Standards

Grade Level: 10-12 grade

Subject: Genetics

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1. Standard/Description	2. Evidence of Proficiency	3. Prior Skills Needed	4. Common Summative Assessment	5. When Taught?	6. Enrichment Standards
Demonstrate Safety	Abide by and perform all safety rules of the classroom.	Fire is hot, glass will cut, and goggles protect eyes.	Safety quiz	January and everyday.	
Evaluate the process of the cellular division (mitosis and meiosis)	Draw, label, and explain the phases of mitosis and meiosis.	Understanding of cellular division and its purpose.	Notes and quiz/test on cellular division.	January	
Apply Mendelian Genetics	Solve monohybrid and dihybrid crosses.	Use of monohybrid and dihybrid crosses to determine allele frequency.	Notes and quiz/test on punnett squares, mono and dihybrid crosses.	February	
Interpret sex-link, autosomal dominant and autosomal recessive disorders.	Asses the differences in genetic disease using pedigrees and other characteristics.	Basic concept of genetic disorders.	Notes and quiz/test on diseases using pedigrees.	February	
Characterize different genetic diseases.	Asses the differences in genetic disease using pedigrees and other characteristics.	Basic concept of genetic disorders.	Notes and quiz/test on characteristics of disease/pedigrees.	February	
Transcribe and Translate DNA/RNA/Protein synthesis	Manipulate modules working from a DNA sequence through to an amino acid chain, eventually to a protein.	Understanding of DNA structure and function.	Notes and quiz/test on DNA replication and Protein synthesis.	March	
Use biotechnology to investigate a crime scene.	Create, assess, and judge information and data to solve a crime.	Basic applications of biotechnology.	Crime scene investigation using rubric.	April/May	

1. Standard: What is the essential standard to be learned? Describe in student-friendly vocabulary.
2. Example/Rigor: What does proficient student work look like? Provide an example and/or description.
3. Prior Skills Needed: What prior knowledge, skills, and/or vocabulary is needed for a student to master this standard?
4. Common Assessment: What assessment(s) will be used to measure student mastery?

6. When will this standard be taught?

6. Enrichment: What supplementary standards/skills enrich the essential standard?

Mattos, Buffum, Weber, 2010