

COURSE NAME: PLTW Principles of Biomedical Science

GRADE LEVEL: 9-12

CREDITS: 1

YEAR AT A GLANCE

	First Six Weeks	Second Six Weeks	Third Six Weeks	Fourth Six Weeks	Fifth Six Weeks	Sixth Six Weeks
TimeFrame	6 weeks	6 weeks	6 weeks	6 weeks	6 weeks	6 weeks
Essential Unit of Study	Unit 1: The Mystery Investigating the Scene DNA Analysis Autopsy	Unit 2: Diabetes Diabetes Science of Food	Unit 2: Diabetes Life with Diabetes	Unit 3: Sickle Cell Disease	Unit 4: Heart Disease	Unit 5: Infectious Diseases Unit 6: Post Mortem (PLTW EOC)
Content Topics	Laboratory procedures and safety Experimental design Career: Forensic Scientist Collect crime scene evidence Ambient temperature/time of death calculation Blood patterns DNA/gene/chromosome structure DNA gel electrophoresis Career: medical professionals of a mysterious death investigation HIPPA legislation Create an autopsy report	Diabetes: diagnosis and characteristics of disease Compare Type 1 and Type 2 Diabetes Homeostasis of glucose levels macro/biomolecules Food chemical and nutritional analysis Caloric analysis of food	Lifestyle, support, modifications and complications of diabetes, both type 1 and type 2 Re-evaluate autopsy report	Causes, effects and treatment of Sickle Cell Disease Genetics and inheritance Genetic mutations Protein expression and structure Gel electrophoresis Develop pedigrees	Heart structure and function Compare veins and arteries Revisit Autopsy report Cardiac workup: heart rate, blood pressure, EKG (changing variables affect the heart function) Effect of cholesterol on the body/blood flow rate Heart attack and stroke, causes, effects and treatment Revisit autopsy	Pathogenesis of bacteria Bacteria culture, morphology and identification Function of the immune system General Human Body system structures and functions, relate previously studied disorders to the overall systems. (homeostasis)
TEKS	Lesson 1.1 Lesson 1.2 Lesson 1.3	Lesson 2.1 Lesson 2.2 Lesson 2.3	Lesson 2.1 Lesson 2.2 Lesson 2.3	Lesson 3.1 Lesson 3.2 Lesson 3.3 Lesson 3.4	Lesson 4.1 Lesson 4.2 Lesson 4.3 Lesson 4.4	Lesson 5.1 Lesson 6.1

Resources	PLTW.org (Human Anatomy & Physiology, 9th Ed. (Pearson)) Aligned Resources
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