



Customized

Learning Experiences

Biology

Major Concept	Seminar (s)	Problem Based Module	Standards
Traits of Life and Living Things	Themes and Concepts of Biology ----- Traits of Life ----- Levels of Organization	Viruses	BIO.A.1.1.1 BIO.A.1.2.2
Essential Chemistry of Life	Structure and Properties of Atoms and Compounds ----- Carbon as a Building Block for Life ----- Water as an Essential Molecule of Life	Water is Free?	BIO.A.2.1.1 BIO.A.2.2.1
Macromolecules	Function Follows Structure ----- The Formation of Polymers ----- Enzymatic Proteins	What is SAD about your food?	BIO.A.2.2.2 BIO.A.2.2.3
Cell Structure	The Basics of Cells ----- Prokaryotic Cells ----- Eukaryotic Cells	Mitochondrial Disease	BIO.A.1.2.1 BIO.A.1.2.2

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Cellular Energy	ATP as Cellular Energy ----- Carbon Cycles ----- Chloroplast and Mitochondria	The Fountain of Youth	BIO.A.3.1.1 BIO.A.3.2.1 BIO.A.3.2.2
Cellular Transport	Mechanisms of Transport in the Cell Membrane ----- Plasma Membrane-bound Organelles in Material Transportation ----- The Cellular Structure	Cell Membrane Function and Dysfunction- A Key to Diseases	BIO.A.2.2.3 BIO.A.4.2.1 BIO.A.4.1.2 BIO.A.4.1.1
Cellular Reproduction	Cancer and Mitosis ----- Meiosis ----- Mitosis	Life	BIO.B.1.1 BIO.B.1.1.2 BIO.B.1.1.1
Mendelian and Non Mendelian Inheritance	Genetic Disorders ----- Mendel's Experiments and Heredity ----- Modern Genetics	Who Owns Your Genes?	BIO.B.2.1 BIO.B.1.2
Protein Synthesis	Cell Structure ----- Mutations - Mistakes Happen ----- Unity of Life in Protein Synthesis	It's All About The Mutations	BIO.B.2.2.1 BIO.B.2.2.2 BIO.B.2.3.1
Biotechnology and Change	Cloning and the Future ----- Human Genome Project ----- Biotechnology	Designer Babies	BIO.B.2.4 BIO.B.3.2.4

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Evolution as a Process	Evolutionary Relationships ----- Population and Evolution ----- What is Evolution	Extinction	BIO.B.3.2.1
The Interactions of Living Things	Biotic interactions Within an Ecosystem ----- Ecosystem Services ----- Population Dynamics	A Disturbance in the Force-Keeping Our Ecosystems Intact Climate change, Biodiversity and Pollution	BIO B.4.1.1 BIO B.4.1.2 BIO B.4.2.1 BIO B.4.2.2 BIO B.4.2.3 BIO B.4.2.4 BIO B.4.2.5