Teacher: Svoboda Subject: Biology Grade: 9

reacrier. Syoboda		Subject. Biology		Grade. 9
Week (dates or numbers)	Standards	Essential skills/objectives	Activities	Assessments
Week 1:		-Identify Characteristics of Living things - Establish Syllabus and Class Norms	NotesCharacteristics of Life Lab	Quiz 1
Week 2:	HS-LS1-6 HS-LS1-2.	 Differentiate types of bonds Explain how bonds create macromolecules Justify correlation between structure and function of macromolecules 	 Notes Macromolecule charts Characteristics of water notes Penny demo (surface tension) Ice sink/float demo (density) Stations - characteristics of macromolecules 	Quiz 2 Lab
Week 3:	HS-LS1-2. HS-LS1-2.	- Categorize prokaryotes and eukaryotes - Identify cells as the basic unit of life (cell theory) - Structure and function - organelles	- Notes - Cell Exploration Activity (various stations to explore cell sizes, types, organelles, observation under a microscope, compare and contrast) - Informal questioning and discussion	Quiz 3 Cell exploration activity
Week 4:	HS-LS1-3	 Explain diffusion Differentiate between passive and active transport Justify diffusion/osmosis within cells and 	 Notes Osmosis lab Diffusion demo Informal questioning and discussion 	Quiz 4 Osmosis Lab

		how it helps cells function		
Week 5:	HS-LS1-5 HS-LS1-2. HS-LS1-3	 Identify where in the cell photosynthesis occurs Identify key structures that help photosynthesis function Explain the two steps of photosynthesis and where they occur Identify key molecules and their roles 	 Notes Elodea and Photosynthesis lab Informal discussion 	- Quiz 5 - Lab
Week 6:	HS-LS1-7 HS-LS1-3	 Identify key molecules and their roles Explain the steps of cellular respiration Identify the structures and how they help the cell perform CR 	- Notes - Create Cell Respiration Flow Chart (infographic) -	- Quiz 6 - Infographic
Week 7:	HS-LS1-4. HS-LS3-1. HS-LS3-2.	 Identify the stages of cell cycle Understand why a cell needs to divide Connect cell cycle and cancer Identify differences in mitosis and meiosis Justify the need for haploid cells in gamete formation 	- Notes - Mitosis lab OR mitosis stop-motion project	- Quiz 7 - Lab or project

Week 8:	HS-LS1-1. HS-LS3-1. HS-LS3-2.	 Identify DNA's role in protein synthesis Explain the steps of transcription and translation Correlation proteins to physical traits 	 Notes Read article (khan academy) Protein Synthesis Simulation Lab 	- Quiz - Lab
Week 9: (end of Q1)	HS-LS1-1, 2, 3, 4, 5, 6, 7 HS-LS3-1. HS-LS3-2.	Finalize any missing or late workReviewStudy Guide	Study GuideCompletionReview GamesMidterm	- Midterm
Week 10:	HS-LS3-1, 2, 3	 Differentiate between DNA, alleles, and genes Discuss mutations Introduction to Punnett squares 	 Notes Class traits Lab (graph data) Punnett Square Practice 	Traits LabPractice PunnettsQuiz
Week 11	HS-LS3-1, 2, 3	 Differentiate patterns of inheritance (incomplete, codominant, multiple alleles, X-linked) Mixed practice with different patterns of inheritance 	 Notes Mixed practice Punnett Practice Blood Typing Lab 	Blood Typing labMixed PracticeQuiz
Week 12	HS-LS3-3 HS-LS4-1. HS-LS4-3. HS-LS4-4.	 Population Genetics and Fitness Mechanisms of evolution Genetic Drift and Non-random Mating Mutation and Gene Flow Natural Selection 	- Notes - Natural Selection Simulation Lab (Phet)	- Simulation Lab - Quiz

Week 13	HS-LS4-1. HS-LS4-2. HS-LS4-3. HS-LS4-4. HS-LS4-5.	 Hardy-Weinberg Equilibrium Lamarck and Darwin Evidence Selection Types Adaptation and Comparative Anatomy 	- Notes - Bird Beaks Lab	- Lab - Quiz
Week 14	HS-LS4-1. HS-LS4-2. HS-LS4-4. HS-LS4-5. HS-LS4-6. HS-LS2-6.	 Comparative Genomics Fossil Record and Geologic Time Biogeography and Supercontinents Speciation 	- Notes - Fossil Record Inquiry Lab	- Lab - Quiz
Week 15	HS-LS2-1. HS-LS2-2. HS-LS2-4.	 Food Chains, Webs, and Pyramids Habits and Niches Mutualism, Predation, and Mimicry 	 Notes Practice with food chains and webs 10% Rule Lab 	- Lab - Quiz
Week 16	HS-LS2-2. HS-LS2-6.	 Commensalism, parasitims, and competition Biomes 	NotesEcological relationshipsBiome Map	- Map - Quiz
Week 17	HS-LS2-1. HS-LS2-3. HS-LS2-4. HS-LS2-5. HS-LS2-7. HS-LS2-8.	 Nitrogen, water, and Carbon Cycles Succession 	 Notes Students create projects and present 1 cycle 	- Cycle project - Quiz
Week 18	HS-LS2-7. HS-LS2-8.	- Review for Final	Study GuideInformal questioning and discussion	- Final