Standard ID	Standard Text	Edgenuity Lesson Name
NGSS.HS-LS.	LIFE SCIENCE (NGSS)	
HS-LS1.	From Molecules to Organisms: Structures and Processes	
	Students who demonstrate understanding can:	
HS-LS1-1.	Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.	Macromolecules DNA and RNA Structure RNA and Protein Synthesis Lab: Building Proteins from RNA
HS-LS1-2.	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.	Characteristics of Life Cell Theory Prokaryotic and Eukaryotic Cells The Function of Organelles Lab: Using a Compound Microscope Cell Homeostasis Lab: Diffusion Across a Semi-permeable Membrane Animal and Plant Cells Methods of Classification Lab: Using a Dichotomous Key The Kingdoms Overview of Animals Types of Plants Plant Structures Protists and Fungi Bacteria Body Organization The Human Skeleton Muscle Structure and Function The Nervous System The Circulatory and Respiratory Systems The Digestive and Excretory Systems The Reproductive System The Lymphatic System The Immune System

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HS-LS1-3.	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.	Body Organization Lab: Exercise and Homeostasis The Endocrine and Exocrine Systems
HS-LS1-4.	Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.	Mitosis Cell Differentiation and Specialization Asexual and Sexual Reproduction
HS-LS1-5.	Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.	Animal and Plant Cells Light Dependent Reactions in Photosynthesis Light Independent Reactions in Photosynthesis
HS-LS1-6.	Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.	Elements of Living Organisms The Importance of Carbon Macromolecules Carbohydrates Lipids Proteins and Nucleic Acids Catalysts Lab: Identifying Nutrients Light Independent Reactions in Photosynthesis RNA and Protein Synthesis The Digestive and Excretory Systems
HS-LS1-7.	Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.	Cellular Respiration The Digestive and Excretory Systems
HS-LS2.	Ecosystems: Interactions, Energy, and Dynamics	
	Students who demonstrate understanding can:	
HS-LS2-1.	Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.	Population Size and Structure Population Growth

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HS-LS2-2.	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.	Population Size and Structure Population Growth
HS-LS2-3.	Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.	ATP Light Dependent Reactions in Photosynthesis Light Independent Reactions in Photosynthesis Cellular Respiration
HS-LS2-4.	Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.	Energy Transfer in Ecosystems
HS-LS2-5.	Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.	Light Dependent Reactions in Photosynthesis Light Independent Reactions in Photosynthesis Cellular Respiration Biogeochemical Cycles in Ecosystems
HS-LS2-6.	Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.	Organizational Hierarchy Relationships Among Organisms Lab: Interdependence of Organisms Energy Transfer in Ecosystems Population Size and Structure Succession and Extinction Populations and the Environment Lab: Ecological Succession
HS-LS2-7.	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.	Human Impact on the Environment
HS-LS2-8.	Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.	Relationships Among Organisms Lab: Interdependence of Organisms Social Behavior

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HS-LS3.	Heredity: Inheritance and Variation of Traits	
	Students who demonstrate understanding can:	
HS-LS3-1.	Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.	Genetic Code Chromosomes Introduction to Genetics
HS-LS3-2.	Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.	Meiosis DNA Mutations Laws of Inheritance Probability of Inheritance Non-Mendelian Inheritance Sex-linked Inheritance The Basis of DNA Technology Applications of DNA Technology Consequences of DNA Technology
HS-LS3-3.	Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.	Probability of Inheritance Lab: Mouse Genetics (Two Traits) Lab: Natural Selection
HS-LS4.	Biological Evolution: Unity and Diversity	
	Students who demonstrate understanding can:	
HS-LS4-1.	Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.	Biological Evidence and the Fossil Record Evolutionary Relationships Human Evolution
HS-LS4-2.	Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.	Asexual and Sexual Reproduction DNA Mutations Darwin's Theory Lab: Natural Selection Factors Affecting Genetic Variation Factors Affecting Biological Diversity Biogeographic Isolation Human Evolution

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HS-LS4-3.	Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.	Darwin's Theory Lab: Natural Selection
HS-LS4-4.	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.	Darwin's Theory Lab: Natural Selection Human Evolution
HS-LS4-5.	Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.	Biogeographic Isolation Succession and Extinction
HS-LS4-6.	Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.	Human Impact on the Environment
NGSS.HS-ETS.	ENGINEERING DESIGN (NGSS)	
HS-ETS1.	Engineering Design	
	Students who demonstrate understanding can:	
HS-ETS1-1.	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.	Human Impact on the Environment
HS-ETS1-2.	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.	Human Impact on the Environment
HS-ETS1-3.	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.	Human Impact on the Environment
HS-ETS1-4.	Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.	Human Impact on the Environment