Unit Number	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Title of Unit (links to unit specific calendars/plans)	Body Systems	Cells	Reproduction	Evolution	Biomedical Engineering
Dates of Unit/ Days Needed	6 weeks	6 weeks	6 weeks	7 weeks	4 weeks
Activities	14	15	14	17	9
Unit Issue	How interactions between body systems can be affected by disease, medications, and other factors	Public health, preventing the spread and the treatment of infectious diseases	The use of genetic information to make medical and health-related decisions.	How people can affect and be affected by evolution	How science, technology, and engineering can be used to design solutions to improve the health and wellness of others.
Anchoring Phenomenon	How body systems function and interact in a healthy person and when a person is sick. An example is the interaction of the circulatory and respiratory systems during exercise. Students generate and answer questions such as: How do systems in the human body function? How do they interact? How can a problem in one system affect another system or systems?	Organisms as different as humans, plants, and many of the microorganisms that make people sick are all made of cells. Examples include cells from various animal tissues like blood cells, plant cells, protozoa, and bacteria, including specific microorganisms that cause certain infectious diseases. Students generate and answer questions such as: How are the cells of various organisms alike? How are they different? How do these similarities and differences relate to the functions of these cells?	Most people have features more like their biological relatives than most other people, but even within a family, each person is unique. Examples explored include physical traits like eye color, genetic conditions like Marfan syndrome, the role of genes and the environment, and behavioral traits in humans and model organisms. Students generate and answer questions such as: What explains the similarities and differences between related individuals, from parents, to siblings, to identical twins?	Populations change over time. Some changes take place over very long time periods, while others take place over observable time periods. People can cause and be affected by these changes. Examples include: there are more life forms now than there were in the past; some kinds of organisms have gone extinct, like large dinosaurs; organisms that are harmful, like some bacteria and pests, have developed resistance to our methods of eliminating them. Students generate and answer questions such as: How have populations changed over time? What caused these changes? How are people affected by and affecting evolution? Are people causing a mass extinction?	Engineered solutions can improve people's health and functioning. Examples explored include artificial bones, artificial hands, and artificial heart valves. Students generate and answer questions such as: How can science, technology, and engineering be used to improve people's health and wellness? How are medical devices designed, tested, and improved?
Key Science Concepts	body systems, organs, organ systems, levels of organization, structures, function, digestive system, matter and energy from food, macronutrients, nervous system, circulatory system, respiratory system, gas exchange, clinical trials	cells, cell theory, microbe, uni/multicellular, organelles, cellular respiration, model, trade-offs	Genes/Genetics, sexual reproduction, breeding, offspring, inheritance, fertilization, allele, Punnett square, DNA, chromosome, traits, mutation	Natural selection, resistance, population, traits, variation, evolution, genes, diversity, fossils, geologic time, genetic engineering, artificial selection	Engineering design, criteria/constraint, prototype
Learning Routines	Rumors				
Next Gen Practices	Analyzing and interpreting data, asking questions and defining problems, constructing explanations and designing solutions, developing and using models, engaging in arg from evidence, obtaining/eval/communicating info, planning and carrying out investigations, using math/comp thinking, connetions to NoS, Structure and function	Analyzing and interpreting data, constructing explanations and designing solutions, developing and using models, engaging in arg from evidence, obtaining/eval/communicating info, planning and carrying out investigations, using math/comp thinking, connections to NoS	Analyzing and interpreting data, asking questions and defining problems, constructing explanations and desiging solutions, developing and using models, engaging in arg from evidence, obtaing/evaluating/communicating info, planning and carrying out investigations, using math/comp thinking, connections to NoS	Asking Questions and Defining Problems, Analyzing and interpreting data, constructing explanations and designing solutions, developing and using models, engaging in arg from evidence, obtaining/evaluating/communicating info, Math/comp thinking, Connections to NoS	Analyzing and Interpreting Data, Asking Questions and Defining Problems, Constructing explanations, developing and using models, engaging in arg from evidence, using math/comp thinking
Next Gen Cross Cutting Ideas	Cause and effect, energy and matter, scale/prop/quant, stability and change, structure and function, systems and system models, connections to NoS	Cause and effect, energy and matter, patterns, structure/function, systems and system models, scale/prop/quant, connections to eng/tech/science, connections to NoS	Cause and effect, Patterns, Structure and function, Scale/Prop/Quant, Connections to NoS	Cause and effect, Patterns, Scale/Prop/Quant, Structure and function, Connections to Eng/Tech/Science, Connections to NoS	Structure and Function, Scale/Proportion/Quantity, Stability and CHange, Connects to Eng/Tech/Science, Connections to NoS
Notes:	Making Connections Lab here	Add in immune systesm	Human repro needed here	Beaks of Finches here	Diffuion?
		Diffusion Lab Here			
Links	Guiding Question Organizer				
	Glossary				
	Filled-in Glossary				

Unit Number	Unit 6
Title of Unit (links to unit specific calendars/plans)	Ecology
Dates of Unit/ Days Needed	7 weeks
Activities	16
Unit Issue	The environmental impacts of introduced species
Anchoring Phenomenon	Introduced species are changing environments all around us. They can cause problems for people and affectbiodiversity. Examples explored include Nile perch, zebra mussels, and local examples, such as starlings, kudzu, and others identified by students and teachers. Students generate and answer questions such as: How do introduced organisms interact with their environments, what are the effects of these interactions, and what can be done to prevent harmful interactions?
Key Science Concepts	Ecology/enviro impact, habitats/niche, food webs/chains, symbiotic relationship
Learning Routines	
Next Gen Practices	Analyzing and Interpreting Data, Asking Questions and Defining Problems, Construction Explanations and Designing Solutions, Developing and Using Models, Engaging in Argument from Evidence, Obtaining/Eval/Communicating Information, Planning and Carrying Out Investigations, Using Math/Comp Thinking
Next Gen Cross Cutting Ideas	Patterns, Energy and Matter, Stability and Change, Systems and System Models, Scale/Proportion/Quantity, Connections to Nature and Science, Cause and Effect
Notes:	Relationships and Biodiversity?
Links	

Unit Number									
Title of Unit (links to unit specific calendars/plans)									
Dates of Unit/ Days Needed									
Activities									
Unit Issue									
Anchoring Phenomenon									
Key Science Concepts									
Learning Routines									
Next Gen Practices									
Next Gen Cross Cutting Ideas									
Notes:									
Links									