Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Explain how atomic structure is related to the properties of elements and their position in the Periodic Table. Explain how the composition of the nucleus is related to isotopes and radioactivity.	H.1P.1
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Describe how different types and strengths of bonds affect the physical and chemical properties of compounds.	H.1P.2
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Compare and contrast the four types of organic macromolecules. Explain how they compose the cellular structures of organisms and are involved in critical cellular processes.	H.1L.1
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Describe the chemical structure of DNA and its relationship to chromosomes. Explain the role of DNA in protein synthesis.	H.1L.2
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Explain and apply laws of heredity and their relationship to the structure and function of DNA	H.1L.3
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Explain how cellular processes and cellular differentiation are regulated both internally and externally in response to the environments in which they exist.	H.1L.4
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Classify the bodies in our solar system based on properties and composition. Describe attributes of our galaxy and evidence for multiple galaxies in the universe.	H.1E.1
Structure and Function: A system's characteristics, form, and function are attributed to the quantity, type, and nature of its components.	H.1	Describe the structure and composition of Earth's atmosphere, geosphere, and hydrosphere.	H.1E.2
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how chemical reactions result from the making and breaking of bonds in a process that absorbs or releases energy. Explain how the rate of a chemical reaction is affected by temperature, pressure, and concentration.	H.2P.1
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how physical and chemical changes demonstrate the law of conservation of mass.	H.2P.2
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Describe the interactions of energy and matter including the law of conservation of energy.	H.2P.3
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Apply the laws of motion and gravitation to describe the interaction of forces acting on an object and the resultant motion.	H.2P.4
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how energy and chemical elements pass through systems. Describe how chemical elements are combined and recombined in different ways as they cycle through the various levels of organization in biological systems.	H.2L.1
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how ecosystems change in response to disturbances and interactions. Analyze the relationships among biotic and abiotic factors in ecosystems.	H.2L.2
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Describe how asexual and sexual reproduction affect genetic diversity	H.2L.3
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how biological evolution is the consequence of the interactions of genetic variation, reproduction and inheritance, natural selection, and time.	H.2L.4
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how multiple lines of scientific evidence support biological evolution.	H.2L.5
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Identify and predict the effect of energy sources, physical forces, and transfer processes that occur in the Earth system. Describe how matter and energy are cycled between system components over time.	H.2E.1
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Explain how Earth's atmosphere, geosphere, and hydrosphere change over time and at varying rates. Explain techniques used to elucidate the history of events on Earth.	H.2E.2
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Describe how the universe, galaxies, stars, and planets evolve over time.	H.2E.3
Interaction and Change: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.	H.2	Evaluate the impact of human activities on environmental quality and the sustainability of Earth systems. Describe how environmental factors influence resource management	H.2E.4
Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.	H.3	Based on observations and science principles formulate a question or hypothesis that can be investigated through the collection and analysis of relevant information.	H.3S.1
Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.	H.3	Design and conduct a controlled experiment, field study, or other investigation to make systematic observations about the natural world, including the collection of sufficient and appropriate data.	H.3S.2
Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.	H.3	Analyze data and identify uncertainties. Draw a valid conclusion, explain how it is supported by the evidence, and communicate the findings of a scientific investigation.	H.3S.3
Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.	H.3	Identify examples from the history of science that illustrate modification of scientific knowledge in light of challenges to prevailing explanations.	H.3S.4
Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.	H.3	Explain how technological problems and advances create a demand for new scientific knowledge and how new knowledge enables the creation of new technologies.	H.3S.5
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Define a problem and specify criteria for a solution within specific constraints or limits based on science principles. Generate several possible solutions to a problem and use the concept of trade-offs to compare them in terms of criteria and constraints.	H.4D.1
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Create and test or otherwise analyze at least one of the more promising solutions. Collect and process relevant data. Incorporate modifications based on data from testing or other analysis.	H.4D.2
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Analyze data, identify uncertainties, and display data so that the implications for the solution being tested are clear.	H.4D.3
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Recommend a proposed solution, identify its strengths and weaknesses, and describe how it is better than alternative designs. Identify further engineering that might be done to refine the recommendations.	H.4D.4
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Describe how new technologies enable new lines of scientific inquiry and are largely responsible for changes in how people live and work.	H.4D.5
Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.	H.4	Evaluate ways that ethics, public opinion, and government policy influence the work of engineers and scientists, and how the results of their work impact human society and the environment.	H.4D.6