

Science K-12

Grades 9-12

Physical Science Strand

Matter and its Interactions	Motion and Stability: Forces and Interactions	Energy	Waves and their Applications in Technologies for Information Transfer
Life Science Strand			
From Molecules to Organisms: Structures and Processes	Ecosystems: Interactions, Energy, and Dynamics	Heredity: Inheritance and Variation of Traits	Biological Evolution: Unity and Diversity
Earth and Space Science Strand			
Earth's Place in the Universe	Earth's Systems	Earth and Human Activity	

Grades 6-8

Nature of Science and Engineering	Patterns	Cause & Effect	Scale, Proportion, and Quantity	Systems and System Models	Energy and Matter in Systems	Structure and Function	Stability and Change of Systems
Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria. plan and conduct investigations or apply engineering design practices to analyze and interpret data, and	Students will observe, predict, and analyze patterns in order to support evidence based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic).	Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships.	Students will apply reasoning and modeling to determine the proportional relationships in observable and non-observable phenomena in terms of relative scale and quantity.	Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and	Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and	Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or support claims about survival and/or improved performance.	Students will analyze and evaluate the stability of natural and human designed systems in order to develop evidence-based explanations and predictions of changes over time.

construct and communicate evidence-based explanations or possible optimal solutions.				behaviors).	limitations.		
Grades K-5							
Nature of Science and Engineering	Patterns	Cause & Effect	Scale, Proportion, and Quantity	Systems and System Models	Energy and Matter in Systems	Structure and Function	Stability and Change of Systems
Students will work collaboratively and individually to generate testable questions or to define problems in terms of a given situation; research, plan, and conduct investigations or apply engineering design practices*; analyze and interpret data; and construct and communicate evidence-based explanations or best possible solutions.	Students will sort and classify natural phenomena, identifying similarities and differences, in order to recognize and use patterns.	Students will investigate cause and effect relationships to make predictions and support evidenced-based explanations or claims about change.	Students will use relative scale and quantity to describe, compare, or represent data in order to answer questions about observable and non-observable phenomena, create investigations, and solve problems.	Students will investigate and use models of natural or human-designed systems in order to describe a system, how its parts function together, and how internal and external factors affect the system or its parts.	Students will investigate and use models to make predictions and support evidence-based explanations about the cycling of matter and flow of energy within and between systems.	Students will investigate the structure, substructure, and function of organisms and human-designed objects in order to analyze relationships and support evidence-based explanations about survival or performance.	Students will investigate natural or designed systems in order to make predictions, analyze, and explain how slow or rapid changes may affect the stability of a system over time.