Next Generation Science Standards
Advanced Academy
10th-12th Grade 2025

	Deep Space Concepts	Drones and Rovers	Engineering Extreme Environments	Guided Exploration-Davidson Center, Rocket/Shuttle Par	Intro to CRISPR	Intro to Flight	Model Rocketry Engineering Challenge	Reel or Real?	Seeing the Invisible: EM Spectrum	Space Law Debate	Space Meds	Space Suits Design Challenge	Telescope Night	Thermal Protection Systems Design Challenge	UpGoer Challenge	Weather & Satellites
Earth and Space Science																
ESS1.A: The Universe and Its Stars	X							X	X				X			
ESS1.B: Earth and the Solar System	X		X	X				X				X	X		X	
ESS1.C: The History of Planet Earth			X													
ESS2.A: Earth Materials and Systems			X													
ESS2.B: Plate Tectonics and Large-Scale System Interactions																
ESS2.C: The Roles of Water in Earth's Surface Processes																X
ESS2.D: Weather and Climate			X													X
ESS2.E: Biogeology																
ESS3.A: Natural Resources																
ESS3.B: Natural Hazards																
ESS3.C: Human Impacts of Earth Systems																
ESS3.D: Global Climate Change																
Physical Science																
PS1.A: Structure and Properties of Matter																
PS1.B: Chemical Reactions			X													
PS1.C Nuclear Processes																
PS2.A: Forces and Motion			X			X	X								X	
PS2.B: Types of Interactions				X		X		X			X					
PS2.C: Stability and Instability in Physical Systems																
PS3.A: Definitions of Energy			X			X		X	X		X			X		
PS3.B: Conservation of Energy and Energy Transfer						X								X		
PS3.C: Relationship Between Energy and Forces																
PS3.D: Energy and Chemical Processes in Everyday Life			X													
PS4.A: Wave Properties									X							
PS4.B: Electromagnetic Radiation					X				X			X		X		
PS4.C: Information Technologies and Instrumentation	X		X						X				X			X
Life Science																
LS1.A: Structure and Function					X						X	X				
LS1.B: Growth and Development of Organisms											X					
LS1.C: Organization for Matter and Energy Flow in Organisms			X													
LS1.D: Information Processing																
LS2.A: Interdependent Relationships in Ecosystems								X								
LS2.B: Cycles of Matter and Energy Transfer in Ecosystems								X								
LS2.C: Ecosystem Dynamics, Functioning, and Resilience								X								
LS2.D: Social Interactions and Group Behavior																
LS3.A: Inheritance of Traits					X											
LS3.B: Variation of Traits					X											
LS4.A: Evidence of Common Ancestry																
LS4.B Natural Selection																
LS4.C: Adaptation								X								
LS4.D: Biodiversity and Human																
Engineering Design, Technology, and the Application of Science																
ETS1.A: Defining and Delimiting an Engineering Problem	X	X	X				X					X		X	X	
ETS1.B: Developing Possible Solutions		X	X				X	X				X		X		
ETS1.C: Optimizing the Design Solution		X	X				X					X		X		