Table 3: HIGH SCHOOL LINKAGES

New York City Performance Standards / Related GLOBE Activity		Atm	Soil	Hyd	Phe	Land Cover	GPS	Earth Syst.
S1	**Physical Sciences Concepts**							
S1a	Structure of atoms, such as atomic composition, nuclear forces, and radioactivity							
S1b	Structure and properties of matter, such as elements and compounds; bonding and molecular interaction; and characteristics of phase changes.							
S1c	Chemical reactions, such as everyday examples of chemical reactions; electrons, protons, and energy transfer; and factors that affect reaction rates such as catalysts.	■	■	■	■			■
S1d	Motions and forces, such as gravitational and electrical; net forces and magnetism	■		■				■
S1e	Conservation of energy and increase in disorder, such as kinetic and potential energy; energy conduction, convection, and radiation; random motion; and effects of heat and pressure	■		■	■			■
S1f	Interactions of energy and matter, such as waves, absorption and emission of light, and conductivity.	■	■	■	■			■
S2	**Life Sciences Concepts**							
S2a	The cell, such as cell structure and function relationships; regulation and biochemistry; and energy and photosynthesis.							
S2b	Molecular basis for heredity, such as DNA, genes, chromosomes, and mutations							
S2c	Biological evolution, such as speciation, biodiversity, natural selection, and biological classification					■		
S2d	Interdependence of organisms, such as conservation of matter; cooperation and competition among organisms in ecosystems; human effects on the environment				■	■		■
S2e	Matter, energy, and organization in living systems, such as matter and energy flow through different levels of organization; and environmental constraints				■			■
S2f	Behavior of organisms, such as nervous system regulation; behavioral responses; and connections with anthropology, sociology, and sociology.							
S3	**Earth and Space Concepts**							
S3a	Energy in the Earth system, such as radioactive decay, gravity, the Sun's energy, convection, and changes in global climate.	■	■	■	■	■		■

Table 3: HIGH SCHOOL LINKAGES (ctd)		Atm	Soil	Hyd	Phe	Land Cover	GPS	Earth Syst.
S3b	Geochemical cycles, such as conservation of matter; chemical resources and movement of matter between chemical reservoirs.	■	■	■	■	■		■
S3c	Origin and evolution of the Earth system, such as geologic time and the age of life forms; origin of life, and evolution of the Solar System	■	■	■	■			
S3d	Origin and evolution of the universe, such as the "big bang" theory; formation of stars and elements; and nuclear reactions.							
S3e	Natural resource management				■	■		■
S4	**Scientific Connections and Applications**							
S4a	Big ideas and unifying concepts, such as order and organization; models, forms, and function; change and constancy; and cause and effect				■			■
S4b	The designed world, such as development of agricultural techniques and the viability of technological designs				■			■
S4c	Health, such as nutrition and exercise; disease and epidemiology; personal and environmental safety; and resources, environmental stress, and population growth.							
S4d	Impact of technology, such as constraints and trade-offs; feedback; benefits and risks; and problems and solutions.				■		■	■
S4e	Impact of science, such as historical and contemporary contributions; and interactions between science and society.				■	■		■
S5	**Scientific Thinking**							
S5a	Frames questions to distinguish cause and effect; and identifies or controls variables in experimental and non-experimental research settings					■		■
S5b	Uses concepts from Science Standards 1 to 4 to explain a variety of observations and phenomena	■	■	■	■	■	■	■
S5c	Uses evidence from reliable sources to develop descriptions, explanations, and models; and makes appropriate adjustments and improvements based on additional data or logical arguments				■			■
S5d	Proposes, recognizes, analyzes, considers, and critiques alternative explanations; and distinguishes between fact and opinion				■			■
S5e	Identifies problems; proposes and implements solutions; and evaluates the accuracy, design, and outcomes of investigations	■	■	■	■	■	■	■
S5f	Works individually and in teams to collect and share information and ideas	■	■	■	■	■	■	■
S6	**Scientific Tools and Technologies**							
S6a	Uses technology and tools (such as traditional laboratory equipment, video, and computer aids) to observe and measure objects, organisms, and phenomena, directly, indirectly, and remotely, with appropriate consideration of accuracy and precision	■	■	■	■	■	■	

Table 3: HIGH SCHOOL LINKAGES (ctd)		Atm	Soil	Hyd	Phe	Land Cover	GPS	Earth Syst.
S6b	Records and stores data using a variety of formats, such as data bases, audiotapes, and videotapes	■	■	■	■	■	■	■
S6c	Collects and analyzes data using concepts and techniques in Mathematics Standard 4, such as mean, median, and mode; outcome probability and reliability; and appropriate data displays.	■	■	■	■	■	■	
S6d	Acquires information from multiple sources, such as print, the Internet, computer data bases, and experimentation.	■	■	■	■	■	■	■
S6e	Recognizes and limits sources of bias in data, such as observer and sample biases.							
S7	**Scientific Communication**							
S7a	Represents data and results in multiple ways, such as numbers, tables, and graphs; drawings, diagrams, and artwork; and technical and creative writing; and selects the most effective way to convey the scientific information	■	■	■	■	■	■	■
S7b	Argues from evidence, such as data produced through his or her own experimentation or data produced by others	■	■	■	■	■	■	■
S7c	Critiques published materials, such as popular magazines and academic journals							
S7d	Explains a scientific concept or procedure to other students							
S7e	Communicates in a form suited to the purpose and the audience, such as by writing instructions that others can follow; critiquing written and oral explanations; and using data to resolve disagreements							
S8	**Scientific Investigation**							
S8a	Controlled experiment							
S8b	Fieldwork	■	■	■	■	■	■	
S8c	Design	■			■	■		
S8d	Secondary research	■	■	■	■	■	■	■