

Science: VI. Earth Systems – Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
B. Processes of Systems				
VI.B.1	The water cycle is driven by energy transfer processes, such as convection and radiation, and is constantly changing the location and phase of water.	Water Cycle	Water Cycle	Climatic Influences: High Pressure Zones
VI.B.2	Large bodies of water have a major effect on weather and climate. Ocean currents are caused by differences in temperature and salinity.			Climatic Influences: Cold Ocean Currents
VI.B.5	Incoming solar radiation and the hydrological cycle create patterns of weather and climate.			Climatic Influences: High Pressure Zones

Science: VII. Living Systems - Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
A. Structure/Function/Characteristics				
VII.A.1	Organisms can be classified into kingdoms based on similarities & differences.	Use Organisms for examples	Use Organisms for examples	Use Organisms for examples
B. Life Processes				
VII.B.1	Energy is needed for living cells to carry out all the processes of life.	Photosynthesis, Web Energy		
VII.B.2	In the process of photosynthesis, green plants convert water & carbon dioxide into energy-rich simple sugars and oxygen.	Photosynthesis	Botany: Leaves	
C. Diversity				
VII.C.1	A species is an important biological grouping of organisms whose members have similar structures, normally interbred, and produce fertile offspring.		Biodiversity: Species, New Species	
VII.C.2	Each structure in an organism is uniquely adapted to a particular function for enhancing the ability of the organism to survive.	Plant & Animal Adaptations, Organism screens	Organism screens	Plant & Animal Adaptations, Organism screens

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E. Adaptation/Evolution				
VII.E.1	Natural selection is the process that ensures individuals with certain traits are more likely to survive and have offspring of the same species.		Species, How Species Change, New Species	What is an Adaptation? Animal and Plant Adaptations
VII.E.2	Changes in populations are often, but not always, driven by gradual or catastrophic changes in environmental conditions.		Species, How Species Change, New Species	What is an Adaptation?
VII.E.3	A successful population can adapt to environmental changes through genetic variations.		Species, How Species Change, New Species	What is an Adaptation?

Science: VII. Living Systems – The Digital Frog 2

Ref	What All Students Should Know	The Digital Frog 2
A. Structure/Function/Characteristics		
VII.A.1	Organisms can be classified into kingdoms based on similarities & differences.	Biodiversity screen, Frog vs. Toad screen
VII.A.2	The basic unit of life is the cell. Different cells are specialized to perform various tasks. Cells of similar shape & function are organized into groups.	Examples of cell types can be found on the Blood (Circulatory System); Neurons (Nervous System); Cardiac Muscle - myofibril cells, Smooth Muscle - fibers, Skeletal Muscle - myofibril cells (Musculoskeletal System) screens in the Anatomy section
B. Life Processes		
VII.B.3	Complex multicellular organisms are interacting systems of cells, tissues, organs, and organ networks that carry out life processes through chemical and physical means.	Interacting Systems section, all Systems screens (Circulatory, Respiratory, Digestive, Nervous, Endocrine, Musculoskeletal, Immune, and Urogenital) from the Anatomy section
C. Diversity		
VII.C.2	Each structure in an organism is uniquely adapted to a particular function for enhancing the ability of the organism to survive.	Biodiversity, Frogs Vs. Toads in Ecology section; all Systems screens (Circulatory, Respiratory, Digestive, Nervous, Endocrine, Musculoskeletal, Immune, and Urogenital) from the Anatomy section

Science: VIII. Ecology - Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
A. Interactions				
VIII.A.1	As energy flows through the ecosystem, all organisms must transform the portion of energy available to them into usable forms.	Web Energy, Food Chains		
VIII.A.2	Matter is recycled in an ecosystem, changing form and location.	Decomposers	Productivity, Soils & Decomposition	
VIII.A.3	Abstract concepts of global environment can be applied to complex interactions of the biotic & abiotic factors that affect populations and ecosystems. (i.e. greenhouse effect)		Endangered: Climate	
VIII.A.4	All organisms, including humans, are part of and depend on one global food web that begins with organisms at the bottom of the energy pyramid.	Food Web, Food Chains, Web Energy	Relate to Food Web	Relate to Build-a-Desert
B. Changes				
VIII.B.1	The variation of characteristics in a population increases the likelihood that some members will survive the physical or biological changes of that system.	Relate to Plant & Animal Adaptations	Species, How Species Change	Relate to Plant & Animal Adaptations

Science: VIII. Ecology – The Digital Frog 2

Ref	What All Students Should Know	The Digital Frog 2
B. Changes		
VIII.B.2	The diversity and balance of species in an ecosystem changes when environmental conditions change.	Environmental Concerns screen in Ecology section