

## Science: VI. Earth Systems – Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
<b>A. Physical Systems</b>				
VI.A.1	Variations in the physical conditions and chemical composition of soil are a result of the type of rock from which it came, climate, the process by which it was deposited, and biological activities.	Wetland Types section: Bog Acidity, etc.; Bog Study: Formation animations	Soils & Decomposition, Succession	Desert Types
VI.A.2	Changes in the atmosphere can be caused by natural or human activities.	Link to Nutrient Cycles: Carbon, Water, Nitrogen, Phosphorus	Water Cycle, Climate	Climatic Influences screens, Human Impact screens
VI.A.3	Variations in composition of the atmosphere and hydrosphere caused by natural activities affect all life on Earth.	Link to Nutrient Cycles: Carbon, Water, Nitrogen, Phosphorus	Water Cycle, Climate	Human Impact screens
<b>B. Processes of Systems</b>				
VI.B.1	Elements cycle through the atmosphere, hydro-sphere, lithosphere, and biosphere. The movement of matter through the spheres is driven by Earth's internal and external sources of energy.	link to Nutrient Cycles: Carbon, Water, Nitrogen, Phosphorus	Water Cycle	
VI.B.2	Crustal plate movement affects Earth's topography and provides evidence of a geologic time scale.			Landscape Formation
VI.B.3	Circulation of air and water around Earth, driven by radiation energy from the sun, causes weather phenomena and regional climate.			Climatic Influences: High Pressure Zones (water)

## Science: VII. Living Systems – Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
<b>A. Structure/Function/Characteristics</b>				
VII.A.4	Organisms are classified into a hierarchy of groups & subgroups, based on structural similarities & reflecting as much as possible evolutionary relationships.	Use Organism screens	Use Organism screens	Use Organism screens
<b>B. Life Processes</b>				
VII.B.2	Photosynthesis and cellular respiration are complementary processes.	Photosynthesis		

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VII.B.3	Optimum conditions are maintained in an organism as a result of special functions performed at the cellular level.	Plant Adaptations		Homeostasis, Plant and Animal Adaptations
<b>C. Diversity</b>				
VII.C.2	Variations of organisms within a species and diversity among species increase the likelihood that at least some organisms will survive in the face of large changes in the environment.			What is an Adaptation? Plant and Animal Adaptations
VII.E.2	The process of natural selection provides that some heritable variations that arise from mutation & recombination give individuals within a species some advantage over others for survival.		Species, How Species Change, New Species	

## Science: VII. Living Systems – The Digital Frog 2

Ref	What All Students Should Know	The Digital Frog 2
<b>A. Structure/Function/Characteristics</b>		
VII.A.1	Cells are the fundamental structural & functional units of all living organisms & take highly varied forms in different plants, animals & microorganisms.	Compare cells from following screens: Blood, Neurons, Cardiac Muscle, Smooth Muscle, Skeletal Muscle, Cellular Division
VII.A.2	Cells have distinct & separate structures that perform & monitor processes essential for the survival of the cell and /or organism, such as chemical synthesis, energy conversion, material transport, & cell replication.	View Cellular Division animation of Mitosis to see cell replication (Cellular Division screen is found in Urogenital section within Anatomy)
<b>D. Reproduction/Heredity</b>		
VII.D.4	In asexual reproduction of unicellular organisms (& mitosis in multicellular organisms), DNA of parent cells replicates to form identical chromosomes & genes as the cell divides into two identical offspring cells.	Cellular Division screen has animation of Mitosis (Urogenital System within Anatomy section)

## Science: VIII. Ecology – Field Trips

Ref	What All Students Should Know	Wetlands	Rainforest	Desert
<b>A. Interactions</b>				
VIII.A.1	No two species occupy the same niche in an ecosystem so that different species can coexist and help maintain the stability of that system.		Niches, Dependency Web section	
VIII.A.2	Human decisions concerning the use of resources can alter the stability & biodiversity of ecosystems.	Endangered Wetlands: Conservation, Habitat, Pollution, Migrations	Endangered: Human Impact screens	Human Impact, Impact on the Desert, Desertification
VIII.A.3	Increased demand for natural resources require global cooperation & long-term planning to ensure the resource needs of successive generations will be met.	Endangered Wetlands: Conservation, Habitat, Pollution, Migrations	Endangered: Human Impact screens	Human Impact, Impact on the Desert, Desertification

## Science: VIII. Ecology – The Digital Frog 2

Ref	What All Students Should Know	The Digital Frog 2
<b>A. Interactions</b>		
VIII.A.2	Human decisions concerning the use of resources can alter the stability & biodiversity of ecosystems.	Environmental Concerns: Ecology section