

Science 6th grade

Standard		Kit	Odyssey	Textbook	DEScience	On-line resources Projects power points flipcharts
6-1.1	Use appropriate tools and instruments (including a spring scale, beam balance, barometer, and sling psychrometer) safely and accurately when conducting a controlled scientific investigation.					
6-1.2	Differentiate between observation and inference during the analysis and interpretation of data.					
6-1.3	Classify organisms, objects, and materials according to their physical characteristics by using a dichotomous key.					
6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).					http://www.bbc.co.uk/science/robots/techlab/main_flash_build.shtml Interesting site that lets you "build" a robot walking through technological design. http://www.accessscience.com/multimedia.aspx Design engineering
6-1.5	Use appropriate safety procedures when conducting					

	investigations.					
6-2.1	Summarize the <u>characteristics that all organisms share</u> (including the obtainment and use of resources for energy, the response to stimuli, the ability to reproduce, and process of physical growth and development).			P 9-14, 49-55	Articles Plant Planet Leaf Me Alone A Virtual Tour of Predatory Plants	
6-2.2	Recognize the <u>hierarchical structure of the classification (taxonomy) of organisms</u> (including the seven major levels or categories of living things-namely, kingdom, phylum, class, order, family, genus, and species).			P 15-21, 23-30, 32-39	Explorations/Labs One Tomato, Two Tomato Build A Plant	
6-2.3	Compare the <u>characteristic structures of various groups of plants</u> (including vascular or nonvascular, seed or spore-producing, flowering or cone-bearing, and monocot or dicot).			P 91-97, 98-103, 104-109, 113-120	Videos Trees Seed Dispersal Common Abiotic Factors Angiosperms	
6-2.4	Summarize the <u>basic functions of the structures of a flowering plant</u> for defense, survival, and reproduction.			113-120, 561		
6-2.5	Summarize <u>each process in the life cycle of flowering plants</u> (including germination, plant development, fertilization, and seed production).			113-120		

6-2.6	<u>Differentiate between the processes of sexual and asexual reproduction of flowering plants.</u>			113-120, 562		
6-2.7	<u>Summarize the processes required for plant survival (including photosynthesis, respiration, and transpiration).</u>			57-63, 91-97		
6-2.8	<u>Explain how plants respond to external stimuli (including dormancy and the forms of tropism known as phototropism, gravitropism, hydrotropism, and thigmotropism).</u>			57-63, 563		
6-2.9	<u>Explain how disease-causing fungi can affect plants.</u>			72-77		
6-3.1	<u>Compare the characteristic structures of invertebrate animals (including sponges, segmented worms, echinoderms, mollusks, and arthropods) and vertebrate animals (fish, amphibians, reptiles, birds, and mammals).</u>			129-155, 163-193	Videos Wetlands Prey and Predators Interacting Organisms Giraffe and Chameleon Vision Favorite Swimming Creatures Favorite Lizards Favorite Flying Creatures Coral Ecosystems Alive With Energy Adaptation Biologically Speaking: Classification of Living Organisms	http://school.discoveryeducation.com/lessonplans/programs/animaladaptations/animalclassification
6-3.2	<u>Summarize the basic functions of the structures of animals that allow them to defend themselves, to move, and to obtain resources.</u>			64-70, 129-155, 163-193	Articles Will Hunt for Food Reptiles On Parade Mean and Green Mammal or Not? Magnificent Marsupials and Marvelous Monotremes Invertebrates Insects	

					Doing Good Works Break It Down Blob Blab A Tad Testy Animals: Odd But Natural	
6-3.3	<u>Compare the response that a warm-blooded (endothermic) animal makes to a fluctuation in environmental temperature with the response that a cold-blooded (ectothermic) animal makes to such a fluctuation.</u>			170-177, 179-185, 188-193	Explorations/Labs Eating Like a Bird The BIG Role of Hippopotami Population Puzzle	
6-3.4	<u>Explain how environmental stimuli cause physical responses in animals (including shedding, blinking, shivering, sweating, panting, and food gathering).</u>			64-70, 170-177, 179-185	More Videos Common Abiotic Factors Birds and Insects Applying Scents Animal Vision Adaptation Adaptation Abiotic and Biotic Factors: Influencing the Animal Population	
6-3.5	<u>Illustrate animal behavioral responses (including hibernation, migration, defense, and courtship) to environmental stimuli.</u>			64-70, 179-185, 188-193		
6-3.6	<u>Summarize how the internal stimuli (including hunger, thirst, and sleep) of animals ensure their survival.</u>			64-70		
6-3.7	<u>Compare learned to inherited behaviors in animals.</u>			64-70		
6-4.1	<u>Compare the composition and structure of Earth's atmospheric layers (including the gases and differences in temperature</u>			214-219, 220-223, 241-244		

	<u>and pressure within the layers).</u>					
6-4.2	<u>Summarize the interrelationships among the dynamic processes of the water cycle (including precipitation, evaporation, transpiration, condensation, surface-water flow, and groundwater flow).</u>			254-261, 264-268		
6-4.3	<u>Classify shapes and types of clouds according to elevation and their associated weather conditions and patterns.</u>			254-261		
6-4.4	<u>Summarize the relationship of the movement of air masses, high and low pressure systems, and frontal boundaries to storms (including thunderstorms, hurricanes, and tornadoes) and other weather conditions.</u>			277-283, 285-289		
6-4.5	<u>Use appropriate instruments and tools to collect weather data (including wind speed and direction, air temperature, humidity, and air pressure).</u>			296-301		
6-4.6	<u>Predict weather conditions and patterns based on weather data collected from direct observations and measurements, weather maps, satellites, and radar.</u>			296-301		
6-4.7	<u>Explain how solar energy</u>			214-219, 220-223		

	affects Earth's atmosphere and surface (land and water).					
6-4.8	Explain how convection affects weather patterns and climate.			214-219, 245-252, 277-283, 290-294, 315-321		
6-4.9	Explain the influence of global winds and the jet stream on weather and climatic conditions.			245-252		
6-5.1	Identify the sources and properties of heat, solar, chemical, mechanical, and electrical energy.			351-356, 390-394, 457-464		
6-5.2	Explain how energy can be transformed from one form to another (including the two types of mechanical energy, potential and kinetic, as well as chemical and electrical energy) in accordance with the law of conservation of energy.			351-356, 358-363, 366-370, 466-473		
6-5.3	Explain how magnetism and electricity are interrelated by using descriptions, models, and diagrams of electromagnets, generators, and simple electrical motors.	TOPS activities – flipcharts		536-542, 543-547, 550-554	Cells and Batteries 2 min Electricity 6 min Electricity 4 min Electromagnetics in Use 6 min How Do We Create Electricity? Batteries 2 min Lightning Strikes Again 15 min May the Force Be With You Magnets Do the Darndest Things Batteries Z-Z-Z-Zap That's a Switch Awesome Audibles Clear as a Bell Getting Connected Energy Conversion	

					Power Up The Attraction is Mutual Volts and Jolts Solar Energy Getting Wired Plugging Into the Grid	
6-5.4	Illustrate energy transformations (including the production of light, sound, heat, and mechanical motion) in electrical circuits.			491-497, 499-503		
6-5.5	Illustrate the directional transfer of heat energy through convection, radiation, and conduction.			396-401		
6-5.6	Recognize that energy is the ability to do work (force exerted over a distance).			411-415, 417-424		
6-5.7	Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.			426-434		
6-5.8	Illustrate ways that simple machines exist in common tools and in complex machines.			426-434, 436-441		